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VOL. XVII. NO. 17.

SEPT. 1, 1889.

PEACE ON EARTH
GOOD WILL TOWARD MEN

CLEANING
IN
BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO

BY

ALBION

TERMS, ONE DOLLAR PER YEAR.

S. W. Conrad

FRANKLIN, DUNN, & CO.

GLEANINGS IN BEE CULTURE.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

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No additional discount for electrotype advertisements. A. I. ROOT.

CLUBBING LIST.

We will send GLEANINGS—		
With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(1.00)	1.75
With the Bee Hive,	(.30)	1.20
With the Bee-Keepers' Review,	(.50)	1.40
With the British Bee-Journal,	(1.50)	2.40
With all of the above journals,		6.40
With American Apiculturist,	(\$1.00)	1.70
With Bee-Keepers' Advance and Poul-		
tryman's Journal,	(.50)	1.45
With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journal,	(.50)	1.25
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(2.00)	2.25
With Drainage and Farm Journal,	(1.00)	1.75
With Illustrated Home Journal,	(1.00)	1.75

[Above Rates include all Postage in U. S. and Canada.]

BEE

SEND for a free sample copy of the BEE JOURNAL—16-page Weekly at \$1 a year—the oldest, largest and cheapest Weekly bee-paper. Address BEE JOURNAL, Chicago, Ill.



You can not look over the back No's of GLEANINGS, or any other periodical with satisfaction, unless they are in some kind of a binder. Who has not said—"Dear me, what a bother—I must have last month's journal and it is nowhere to be found?" Put each No. in the Emerson binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen, even though it were months ago.

Binders for GLEANINGS (will hold them for one year) gilt lettered, for 60 cts.; by mail, 12 cts. extra. Ten, \$5.00; 100, \$45.00. Table of prices of binders for any periodical, mailed on application. Send in your orders. A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. 1st. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Col. Co., Pa. 7tfd89
*Paul L. Viallon, Bayou Goula, La. 7tfd89
*S. F. Newman, Norwalk, Huron Co., O. 7tfd89
*Jos. Byrne, Ward's Creek, East Baton Rouge 7-4tfd Par., La.

C. C. Vaughn, Columbia, Tenn. 21tfd88
Wm. L. Ashe, Edwardsville, Mad. Co., Ill. 11tfd88
J. M. Jenkins, Wetumpka, Ala. 9tfd89

*Oliver Hoover & Co., Snyderstown, Northum-berland Co., Pa. 5-15d
Abbott L. Swinson, Goldsboro, Wayne Co., N. C. 5tfd

C. R. Mitchell, Ocala, Marion Co., Fla. 9tfd89
E. Burke, Vincennes, Knox Co., Ind. 9-8-1890
N. A. Knapp, Rochester, Lorain Co., O. 15tfd89
W. E. Crayton, Lima, Allen Co., O. 15tfd89
D. A. McCord, Oxford, Butler Co., Ohio. 11-21 '89
Edward Young, Boonville, Cooper Co., Mo.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La 7tfd89
C. W. Costellow, Waterboro, York Co., Me. 7tfd-89
R. B. Leahy, Higginsville, Laf. Co., Mo. 21tfd88
J. M. Jenkins, Wetumpka, Ala. 9tfd89

FLAT - BOTTOM COMB FOUNDATION.

High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
SPROUT BROOK, MONT. CO., N. Y.

MUTH'S
HONEY-EXTRACTOR,
SQUARE GLASS HONEY-JARS,
TIN BUCKETS, BEE-HIVES,
HONEY-SECTIONS, &c., &c.
PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,
CINCINNATI, O.
P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." (Mention Gleanings.) 1tfdh

A NEW BOOK ON BEES, and DADANT'S FOUNDATION.
See advertisement in another column.

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We have at this date 9066 subscribers. Thank you.

THE BUSH LIMA BEANS.

WELL, dear friends, the bush limas are finally big enough to cook, and they are all right, except in size. With us, however, they are not a bit earlier than our extra-early *pole* lima beans. They are, however, a real bush lima bean, and wonderfully prolific. The little bushes are just bending under their loads of pods.

THE lima beans from Northrup, Braslin, Goodwin & Co. did finally stop running up poles, and turned out to be a tolerably fair bush bean. When ready to cook, they look, when shelled, much like a very thick lima bean; and the quality, when cooked, is something about half way between ordinary white beans and a lima bean. It hardly has a lima-bean flavor, and the plant does not look at all like a lima bean. But they are a very rich, toothsome bush

bean. When we first shelled them I decided that we would raise them for a shelled bean for the wagon; but in a few hours my wife called to me that our lima beans had all turned a reddish yellow. Exposure to the air for just a little while made them begin to assume the color they are when ripe and dry. This one thing would unfit them for sale on the wagon, shelled. On the whole, I do not think they have any right at all to be classed with limas.

THE KUMERLE LIMA BEAN

This is a true lima bean, and it is fully equal in size to the pole limas. The plant, however, seems to demand a tropical climate. It, as well as Henderson's bush lima, is more tender than our pole limas. I am very much afraid that the Kumerle will not escape frost unless we have very favorable seasons. At present the number of beans on a plant does not begin to compare with the amount on the pole limas. It is true, that, under the influence of heavy manuring and extra cultivation, our pole limas are bearing a tremendous crop; but the bush limas were given the same or better ground, and the very best care. Here is something further that is a little queer in regard to suitable soil for lima beans: While our creek-bottom land, that we thought was so greatly superior for almost every thing, will not raise lima beans worth a cent, our hillsides of heavy clay give beautiful crops season after season. Now, this clay land will bake down as hard as a rock unless it is kept constantly stirred in the summer time, and lightened up by lots of manure. The creek-bottom land has, however, so much sand that its cultivation is always quite easy.

SAVE THE SEED OF YOUR IGNOTUM TOMATO.

THE prospect is, we are not going to be able to anywhere near supply the demand for the seed during the coming season. In fact, we have orders already booked for \$42.00 worth. Save the seed from every tomato; and if you do not want it all, I can probably take it off your hands at a good price. You will notice that the Ignotum is so "full of meat" that it produces very few seeds comparatively.

A STEP FORWARD TOWARDS SUCCESS!

After carefully studying the demand of consumers and dealers, and selecting of the many styles of packages for comb honey the very best and the most attractive, we have now prepared an improved paper carton combined with a comb-protector. Honey, put up in these packages, will be bought in preference to all others at highest market price. Our patent comb-protector will prevent leakage and soiling of sections. Comb honey can be easily and quickly put up in our cartons. These advantages and the small cost of our cartons and comb-protector will save labor, time, money, and honey. Strohmeyer's patent comb-protectors require $\frac{3}{8}$ inch of the inside height of crates. Price list and sample carton sent free on application.

F. G. STROHMEYER & CO.,
WHOLESALE HONEY MERCHANTS,
122 WATER STREET, NEW YORK.

THE REVISED LANGSTROTH, and DADANT'S FOUNDATION.
See advertisement in another column.

FOR PURE ITALIAN BEES,
POLAND-CHINA SWINE, WHITE AND BLACK
FERRETS, WHITE RABBITS, WHITE
AND BROWN LEGHORN CHICKENS, AND
MALLARD DUCKS, ADDRESS
N. A. KNAPP, ROCHESTER, LORAIN CO., OHIO.
17tfdb

Cash Paid for Beeswax.

CORRESPONDENCE SOLICITED.
R. B. LEAHY & CO., - - - Higginsville, Mo.
17-18-19d

20,000 feet select white linn lumber, well seasoned; all under roof; mostly 2 in. thick; will sell. Want to buy 10,000 raspberry tips, black caps. Also want to buy 20 bushels Scott wheat. Will pay \$1.00 per bushel.
J. B. MURRAY, Ada, Ohio.

In responding to this advertisement mention GLEANINGS.

"Everbearing" Strawberry.

Plants, by mail, 1 cent each. Bears from frost to frost.

SETH WINQUIST,
Mount Tabor, Oregon.

ITALIAN QUEENS. Tested, \$1.50. Untested, 75c. Mismatched, 35c. Send for price list.
MISS A. M. TAYLOR, Mulberry Grove, Bond Co., Ill.
17tfdb Box 77.

THE HIVE AND HONEY-BEE, and DADANT'S FOUNDATION.
See advertisement in another column.

SIX pure Italian queens, 50c each; 10 mismatched, 30c each; 15 hybrids, 20c each.
F. C. MORROW, Wallaceburg, Ark.

ITALIAN QUEENS by return mail; tested, \$1; untested, 75c.
LEININGER BROS.,
16tfdb Douglas, Putnam Co., Ohio.

BEE-HIVES, SECTIONS, ETC.

WE make the best bee-hives, shipping-crates, sections, etc., in the world, and sell them cheap. We are offering our choicest white one-piece $4\frac{1}{4} \times 4\frac{1}{4}$ sections, in lots of 500, at \$3.50 per 1000.

Parties wanting more, write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. 11fdb

C. B. LEWIS & CO., Watertown, Wis.

In responding to this advertisement mention GLEANINGS.

California.

FOR SALE.—A well-established trade in the supply business. For particulars apply to Box 2, Duarte, Cal. 16-17-18d

MIAMI

The BEST Late Strawberry ON EARTH! PRICE REDUCED

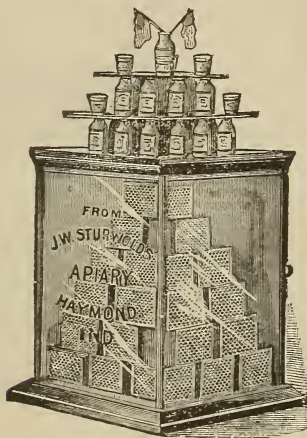
New testimonials and a fine lithograph and photo-engraving of the fruit. All leading varieties for sale. Send for price list and pamphlet to the originator, J. D. KRUSCHKE, Box 824, Piqua, Ohio.

In responding to this advertisement mention GLEANINGS.

Sturwold's Show-Case

FOR THE PROTECTION AND DISPLAY OF

HONEY.



In well-equipped retail stores you will find many goods displayed in show-cases. This is because, from their nature they are liable to damage from dust, exposure, and frequent handling. What is more worthy a place under glass than our honey? By adding to its attractiveness it calls the attention of more people to it, and thus increases its sale. We have just made a new lot of cases, similar to the one shown above. We have used chestnut instead of walnut, and have improved the construction of the case so as to make it stronger, lighter, and simpler. To save transportation charges we can finish these all up and then take out the four corner standards and ship 'knocked down' and securely boxed. They will thus go as first-class freight, while put up they charge three times first-class rates by freight. By express there would be no difference. Price of the case, put up with glass in, or boxed separately, or knocked down and boxed any of the three ways, will be the same—\$4.00. With name and address on the front glass, \$4.50.

A. I. ROOT, Medina, Ohio.

CHOICE ITALIAN QUEENS.

Tested, \$1.25 each; untested, June to Oct., 75 cts.; 3 for \$2.00. Annual price list of nuclei, bees by the pound, and bee-keepers' supplies, free. 11fdb

JNO. NEBEL & SON, High Hill, Mo.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad. in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To correspond with parties having land to sell which they know is in a good honey location, or exchange for property in this county. L. C. CALVERT, Poplar Flat, Lewis Co., Ky.

WANTED.—To exchange extracted honey for a Barnes improved saw, sections, foundation, family Bible, or Webster's Dictionary. 17d Wm. PEARSON, Oswalt, Iowa.

WANTED.—To exchange bees for a Barnes combined saw in good order. Dr. A. W. TUFTS, Musson, Iberville Parish, La.

WANTED.—To exchange 3 L. frame nucleus, with yellow Italian queen, in one-story Simplicity hives, worth \$2.00, for white paint, or offers. Mrs. OLIVER COLE, Sherburne, Chenango Co., N. Y.

WANTED.—To exchange pure Italian queens for extracted honey. Please correspond with description of honey and price, f. o. b. cars at your station. 15tfdb Wm. W. CARY, Coleraine, Mass.

WANTED.—To sell or exchange, Italian bees and queens, and supplies. Address OTTO KLEINOW, 4tfdb No. 150 Military Ave., Detroit, Mich.

WANTED.—To exchange bees for extracted honey. J. F. MICHAEL, German, Darke Co., O. 15-16-17d

WANTED.—To exchange bees, for top-buggy, road-cart, surgical or dental instruments. Dr. CORVA, Moore's Hill, Ind.

BUBACH, Jessie, Warfield, Hoffman's Seedling, May King, and Crescent strawberry-plants, cheap, in exchange for comb or extracted honey, sections, or beeswax. Plants true to name. Write to E. T. FLANAGAN, Belleville, Box 995. St. Clair Co., Ill.

Black and Hybrid Queens For Sale.

Fifty untested Italian queens, 50 cents each. M. ISBELL, Norwich, Chenango Co., N. Y.

Hybrid queens of the best strains, producing energetic workers, 50c each. EDWARD YOUNG, Boonville, Mo.

Fine hybrid queens for 30c each, or 4 for \$1.00; guarantee safe arrival. FRANK HOWARD, Fairfield, Wayne Co., Ill.

One dozen Italian hybrid queens for sale at your own price. They are good, serviceable queens. Some of them produce mostly three-banded worker bees. J. H. JOHNSON, Middaghs, Northam. Co., Pa.

I want to sell 30 full-blood Italian queens that are mated with black drones; they are fine, good, prolific queens. Will send them by mail to any address in the U. S. for 30 cts. each. All are young, raised this season. I want to sell them bad.

H. J. HANCOCK, Siloam Springs, Ark.

HONEY COLUMN.

CITY MARKETS.

PHILADELPHIA.—*Honey.*—As nearly as we can learn, the crop of white honey through the East will be short, owing to the wet season, hence the present outlook is favorable for good prices for comb honey put up in 1-lb. and 2-lb. sections, packed in cases of 20 to 24 lbs. each, and put up in neat, clean, and attractive packages. We beg leave to inform all bee-keepers that we are in a position to handle large quantities of honey in the comb, also extracted, and will take an active interest in disposing of honey to the very best advantage. Our commission for doing business is 5%. The season for the crop of honey is just opening, and prices are not fully established. We quote: Fancy white clover, in 1-lb. sections, per lb., 16¢; 2 lb., 14¢; ordinary grades, 1 to 2c less. No buckwheat honey to quote. Extracted honey, white clover, per lb., 8½¢; orange bloom, 7½¢; Southern, off color, 60¢/70¢ per gal.; California extracted, in 60-lb. cans, 7½¢; comb, in 60-lb. cases, 13¢/14¢. *Beeswax*, Southern, crude, 23½¢/24½¢; Northern, 23¢.
Aug. 15. WALKER & McCORD,
32 & 34 So. Water St., Philadelphia, Pa.

NEW YORK.—*Honey.*—We received several lots of new comb honey, white, 1 and 2 lb. sections. The demand is fair; the market just about opening, although the weather is very warm. We quote: fancy white, 1 lb., glassed and unglassed, 16¢; 2 lb., 14¢; fair white, 1 lb., 14¢; 2 lb., 12¢. Extracted remains firm, with a first-class demand for all kinds, and brings the following prices on arrival: Orange blossom, 7½¢/8¢ per lb.; white clover and basswood, 8¢/8½¢; Southern strained, average quality, 65¢/70¢ per gal. Send in your extracted honey now and get immediate returns.

HILDRETH BROS. & SEGELKEN,
New York.

CINCINNATI.—*Honey.*—Demand for extracted honey is fair from manufacturers, and fair from consumers for table use. It brings 5¢/8¢ on arrival. Arrivals are good. There is a good demand for best qualities of comb honey, while inferior grades find a slow sale. It brings 11¢/15¢ in a jobbing way. *Beeswax* is in good demand and sells readily at 20¢/22¢ on arrival for good to choice yellow.

CHAS. F. MUTH & SON,
Cincinnati, Ohio.

ST. LOUIS.—*Honey.*—The market is very quiet. Too much fruit at low prices to leave any room for rushing it. Moving slowly; choice white clover, comb, in 1-lb. sections, single tier preferred, 12¢/12½¢; larger sized sections, 10¢/11¢. Extracted, in cans, 5½¢/6½¢; bbl., 5¢/5½¢; Southern, 4½¢/5¢. *Beeswax*, prime, 23¢; small orders more.

W. B. WESTCOTT & CO.,
St. Louis, Mo.

NEW YORK.—*Honey.*—Extracted, California, 7½¢/8¢; orange bloom, 7½¢/8¢; common Southern, 65¢/75¢ per gal.; white clover and basswood, 7½¢/8¢; comb honey, 1 lb., fancy white, 16¢; 1 lb., fair, 14¢; 2-lb. sections, 2c less. As prices are about 10 per cent lower this season than last year, we expect a very active demand early in the season.

F. G. STROHMAYER & CO.,
New York.

COLUMBUS.—*Honey.*—Home honey about exhausted. White-clover honey in 1-lb. sections, 16¢/17¢. Early consignments would be profitable, and meet with ready sale. Last week we closed out 75 cases (13 lbs. to the case) from 15¢/17¢. Extracted honey slow.

EARLE CLICKENGER,
Columbus, Ohio.

KANSAS CITY.—*Honey.*—New crop arriving freely; demand light; 1-lb. sections, white clover, 16¢; 2 lb., 14¢; extracted, 8½¢/9¢; dark, 6¢/7¢.

HAMBLIN & BEARSS,
Kansas City, Mo.

BOSTON.—*Honey.*—Honey has arrived quite freely. Sales are a little slow; 1-lb. comb is selling from 17¢/18¢; 2 lb. from 15¢/17¢; extracted from 8¢/9¢.

BLAKE & RIPLEY,
Boston, Mass.

KANSAS CITY.—*Honey.*—Receipts of comb honey large. Market slow, at 14¢/15¢ for 1-lb. white comb; 13¢/14¢ for 2 lb. White, extracted, 7¢/8¢; dark, 6¢. *Beeswax*, 20¢/25¢. CLEMONS, CLOON & CO.,
Aug. 22. Kansas City, Mo.

ALBANY.—*Honey.*—Weather too hot yet for much of a demand in honey, but as soon as changes, look for good prices. Honey consignments and correspondence solicited. H. R. WRIGHT,
Albany, N. Y.

ST. LOUIS.—*Honey.*—Market very quiet, and declining. We quote extracted at 5¢/5½¢; comb, white clover, 12¢/12½¢; fair, 10¢/11¢. *Beeswax*, 24¢.
D. G. TUTT GRO. CO.,
Aug. 21. St. Louis, Mo.

DETROIT.—*Honey.*—New honey coming in very slowly, and selling at 14¢/15¢ for 1-lb. sections. *Beeswax*, 23¢.
M. H. HUNT.

Bell Branch, Mich., Aug. 21.

WANTED.—500 lbs. of nice comb honey.
A. D. ELLINGWOOD, Milan, N. H.

FOR SALE.—1000 lbs. extra choice clover and basswood honey, in 1-lb. sections and 12-lb. cases, at 15¢ per lb., delivered at the depot of any one of five different railroads.

FRANK DURAND, Esdaile, Pierce Co., Wis.

FOR SALE.—2500 lbs. of choice white clover and basswood honey, put up in 60-lb. screw-top cans, at 8¢ per lb.

F. W. HOLMES, Cooperville, Ottawa Co., Mich.

FOR SALE.—4000 lbs. extracted clover and basswood, in 10-gal. kegs, at 10¢ per lb., kegs thrown in.

M. ISBELL, Norwich, Chenango Co., N. Y.

FOR SALE.—Quite a quantity of white clover and basswood honey, put up in 60-lb. square cans. Will take \$4.75 per can at my place. Correspondence solicited. 17-18d H. L. ROUSE, Republic, Iowa.

FOR SALE.—I have a quantity of choice clover honey in scant 1-lb. sections, and 12-lb. cases, at 15¢ per lb. (100 lbs. or more). Also 60-lb. screw-cap cans of extracted clover honey at \$4.90 per can; 2 cans in 1 box, \$9.60. Safe arrival guaranteed by freight.

OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.
17tfdb

FOR SALE.—10,000 lbs. of choice white-clover honey, in first-quality 1-lb. sections, 24 and 48 lb. cases, delivered free on board cars at Dixon, at 13 cts. per lb. If you want 1000 lbs. or more, write for special prices. 17-18d EZRA BAER, Dixon, Ill.

FOR SALE.—25,000 lbs. of choice extracted white-clover honey, in barrels holding about 550 lbs. net, each. I put it up also in packages of any size desired, in either wood or tin. There is no finer honey than this in the market. Write me what you want, and I will give you prices.

EMIL J. BAXTER, Nauvoo, Hancock Co., Ill.

CONVENTION NOTICES.

The Iowa bee-keepers are anticipating a good time at their annual meeting, to be held on the fairground, during the State Fair, Aug. 30 to Sept. 6.
J. W. MOORE, Sec'y.
Des Moines, Ia.

The fifth semi-annual meeting of the Susquehanna County Bee-keepers' Association will be held at New Milford, Pa., on Saturday, Sept. 14, 1889. All are cordially invited to attend.

H. M. SEELY, Sec'y.

The American International Bee-keepers' Association will meet in the Court-house, Brantford, Canada, Dec. 4, 5, 6, 1889. All bee-keepers are invited to attend. State and district bee-keepers' societies are invited to appoint delegates to the convention. Full particulars of the meeting will be given in due time. Any one desirous of becoming a member, and receiving the last annual report, bound, may do so by forwarding \$1.00 to the secretary.

R. F. HOLTERMANN, Sec'y.

Brantford, Ont., Can.

The Northwestern Bee-keepers' Society will hold its annual convention at the Commercial Hotel, corner of Lake and Dearborn Sts., Chicago, on Friday and Saturday, Oct. 11 and 12, at 9 a.m. Arrangements have been made with the hotel for back room, one bed, two persons, \$1.75 per day, each; front room, \$2 per day, each person. This date occurs during the exposition, when excursion rates on the railroads will be one fare for the round trip, good from Oct. 10 to 14, inclusive. There has been a fair crop of honey in the West, and an old-time crowd may be expected at this revival of the Northwestern from its "hibernation."

W. Z. HUTCHINSON, Sec'y.



Vol. XVII.

SEPT. 1, 1889.

No. 17.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

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OUT-APIARIES, NO. XIV.

MEMORANDUM OF WORK TO BE DONE.

MUCH method and planning about your work is not so necessary with only a few colonies; but as the number increases it becomes more necessary; and when your bees occupy two or more apiaries it becomes very necessary that you know beforehand just what you are to do. So it is important, not only to keep a record of what has been done, but to keep a concise memorandum of what is to be done. This can be kept very conveniently in your record-book. I usually put it in the back part of the book. On the left-hand margin of the page, write the dates of the month and the days of the week; and as fast as you know what is to be done ahead, enter the number of the colony to be treated; and if you think best, use some character or letter to indicate what is to be done. I don't mean to say that every thing of your regular work is to be put down, only the unusual things that you might forget, especially those things that might make considerable trouble if you did forget. A part of your memorandum might be like this:

June.

1. Sat. 5, 18, 57, 63.

- o c l y

3. Mon. 219, 234, 238, 242, 259.

a o n

4. Tues. 123, 146.

5. Wed. 304, 315, 322.

y

This means, that on Saturday, June 1, queen-cells are to be destroyed in No. 5. See if there are any eggs in 18; clip the queen of 57, and so on. You will have to look at your record to see what is to be done with 219, and others which have no marks

under them. Sometimes a rainy day will occur, making it necessary to change your arrangements, and then you will find it of great advantage to have your memorandum and your record, for then you have all your apiaries before you, and can plan understandingly, and not leave some important thing too long.

In another place in your book, make a memorandum of any thing that you want taken to any of the out-apiaries. For instance, at a certain apiary where you are to-day, you find you will need so many empty hives, frames, boards for stands, or what not. If you trust to memory you may go next time and leave some needed thing at home, the lack of which may discommode you very much.

OUT-APIARIES RUN WITH NATURAL SWARMING.

If you are a strong advocate of natural swarming you will have some one at each of your apiaries during the busy season, and it depends upon circumstances and your own views of management whether you shall have some cheap hand, merely to watch for swarms and get them hived in some sort of shape, or have efficient help at each apiary while you go around from one apiary to another and have a general oversight over all. Adam Grimm followed the latter plan, I believe. One of the most successful bee-keepers in the country has for each apiary a man capable of running it, and each one of these lives in the village and makes a report at headquarters, every evening, of the doings of the day, going back to his own apiary the next morning. In this case each man has his own conveyance, and hauls for himself the necessary hives, sections, etc. In the other cases you will take with you to the different apiaries whatever may be needed.

I say nothing about management of first and second swarms, for I don't know that there is any thing about it peculiar to out-apiaries.

OUT-APIARIES WITHOUT SWARMING.

Without attempting to discuss whether it is better to encourage or discourage natural swarming, I may say that there are many bee-keepers who think it better on the whole to suppress swarming, either to some extent or as much as possible. If, like some others, you have been trying to find some way by which you could get your bees to work right on through the harvest without any attempt at swarming, when working for comb honey, I am quite safe in saying that your desire to find such a way will be greatly intensified when you come to establish one or more out-apiaries. For whatever may have been the case with one apiary, if you do not desire swarming it will certainly be a great convenience to be able to leave an out-apiary for three days or a week with little or no anxiety about what the bees may do in the way of swarming. To prevent increase is quite an easy matter, for any one can double up; but to prevent swarming is quite another thing. This is not the place to discuss plans to prevent swarming; but I may say that, although I am not without hope that some one may find out a better way, I am not sure now of any way except the one which is probably familiar to you, of keeping the queen caged or out of the hive during the swarming season. "But," you say, "doesn't the absence of the queen or the loss of so much brood during the working season prove detrimental?" Quite likely; but the fact that such men as Capt. Hetherington and P. H. Elwood practice on this plan, shows that they think more is to be gained than lost by it. Even if it should require just as much work during the season as to allow natural swarming, the work can be more evenly distributed; for if you have 100 swarms in 10 days it is any thing but certain that you will have exactly ten each day. Besides, I suspect that three or four persons can take care of more bees by going about from one apiary to another than if each one were obliged to stay in his own place.

Another thing that is quite an item to some, is that it is very much pleasanter to have company, and go together from one apiary to another, than to work alone each day.

Mind you, I'm not insisting that for *you* it is best to try to have no swarming. If you have great faith in natural swarming (and some of our best men have), swarm away to your heart's content. I'm only saying that, if you have a leaning toward the suppression of swarming, you will lean *away* over when you have more than one apiary. What I have said applies particularly to apiaries run for comb honey. If you run for extracted, of course the danger of swarming is very much lessened.

Marengo, Ill.

C. C. MILLER.

ITEMS FROM THE APIARY.

HOW TO TELL WHEN A COLONY IS QUEENLESS.

AT this season of the year we often examine the old colonies in our apiary which have cast swarms, to see if the young queens in the same have commenced to lay. In doing this we often find colonies which have the cells all cleaned out and prepared for the queens, yet there are no eggs in them. I used to think, that where I found cells thus prepared it was a sure sign that the queen was present and was about commencing to lay; but years of experience have taught me that this can not always be depended up-

on; and if a hive is left without further looking after, it often happens that they remain queenless so long that fertile workers get possession of the combs, in which case it is about as well to break up the colony as to try to make them accept a queen. Finding some colonies in the above shape, apparently with queens just ready to lay, I thought I would not wait and look again, as I generally have, often hunting some time for the queen when I did not see eggs, so I went to some of my other colonies, and took frames from them which contained plenty of brood in the egg and larval state, and placed it in the center of each of these doubtful colonies. In four days I went to these colonies again, when all I had to do to tell whether they were queenless or not was to lift these combs I had set in and see whether there were queen-cells on them or not. To my surprise over half of them had queen-cells on them, thus proving conclusively that they were queenless. Now, being positive that they had no queens, all I had to do to introduce one was to take away these frames of brood, put them back in the hives where they came from, and in an hour, when these were mourning because of the loss of this brood, roll a queen in honey and drop her in the hive at the top of the frames, resting assured that she would be well received, for I never lost a queen when put in a hive under these conditions. A frame of brood containing eggs and larvæ placed in any doubtful colony will always tell whether they are queenless or not, yet from the many reports of losses of queens which I have received, it would seem that queens are largely ordered for supposed queenless colonies, and then lost in trying to introduce them to a colony having something they are reverencing as a queen.

SEVERAL QUEENS IN A HIVE.

Just before the honey harvest closed, a swarm came out unexpectedly one day, and, not caring to bother with it at that time, as I was in a hurry, I paid no attention to them, except to cage the queen at the entrance of the hive, and in an hour or two, when passing that way, liberate her, letting her run into the hive. I intended to look the hive over in a day or two and cut the queen-cells off, if the bees had not already done so; but being extremely busy I did not get at it till over two weeks had passed. Passing by this hive one day I saw that this colony had many drones flying, while nearly every other colony in the yard had killed off their drones. I at once resolved to open the hive, which I did. On lifting the first frame I found two queen-cells from which queens had hatched, neither of which showed any signs of being gnawed into at the sides, as they generally show where a young queen hatches after swarming is given up, for under such circumstances the bees and young queen soon destroy all of the rest of the cells. The next comb contained another queen-cell, showing that this one had also hatched a queen from it, and so I kept on finding Queen-cells from which queens had hatched to the number of six or seven, all looking as if the queens had been out of them for several days. On the second frame I found a young virgin queen, evidently a week or more old, and others of about the same age on other frames, till I had counted five. There was no piping or quarreling on the part of the queens, and the bees did not pay any attention to them. The singular part of it was their age, and the time of year. It is nothing singular to find several *very young* queens at liberty together in the

height of the honey-harvest; but to find queens a week or more old, all dwelling in harmony, at a time when robbers were so thick that a tent was required to work with the bees to any amount, seems a little singular. Has any one else had a like experience?

SKUNKS IN THE APIARY.

Under one of the hives at the end of the apiary nearest the woods which come close to one side of the same, and which act as a windbreak, was a large bumble-bee's nest, judging from the number of bumble-bees which were seen going in and out a couple of weeks ago. I had known that they were there, for some time, and had left them from curiosity, showing them to visitors when they came. One morning in passing by this hive I saw that the nest had been dug out the night before, and the bees and most of the comb eaten. One bumble-bee and a little comb was all there was left of the once prosperous family. I was sorry, for I believed this was only the commencement of a raid on my hives, for this is not the first time I have been bothered with skunks. The next night but one the hive next where this bumble-bee's nest was, was disturbed; and now the apiary is visited nightly by these gentlemen. I am about setting traps for them, but I should have much preferred that they stay away, for it is no pleasure for me to have any thing to do with them. Their mode of procedure is to go to a hive, keep scratching on the front of it till the bees come out, when they catch them and eat them. In this way the hives visited the most are badly depopulated; and if they are not caught, much harm to the colonies is the result. If the hives were well up from the ground they would not be troubled; but where low down, the only way I know of is to catch and kill them. I think that they prefer the bees with honey in their sacs, and I believe that they scratch on the hives so that the bees will partially fill themselves with honey, for dead drones and some workers are thick in front of some hives, yet none of them are touched.

G. M. DOOLITTLE.

Borodino, N. Y., Aug. 16, 1889.

I am very glad, friend D., that you have mentioned this matter of ordering queens for hives when they are not queenless. Over and over again novices have imagined that their hives were queenless, and sometimes have bought expensive queens, only to have them killed in trying to introduce them. You may remember that I have repeatedly urged that unsealed brood should always be found in every hive. While a colony is rearing a young queen, and just about the time she is taking her wedding-flight, I should greatly prefer that there be some brood in the hive for the very reason you mention. A glance at this frame of brood, to see when they have queen-cells started, will always tell when any thing has happened to the queen. Now, in your case I should by no means take out this frame of brood and put it back, when I wanted to introduce the queens. Just let it alone; and, if you will excuse me, neither would I roll the queen in honey. Whenever we have reason to suspect that a colony is queenless, and find queen-cells started after giving them brood, I should let any laying queen loose at once without any ceremony. It has been such a very rare thing in our experience to lose a queen under these circum-

stances, I prefer to take the risk of loss. Besides, I do not believe the risk will be much if any greater than by any other mode of introducing under such circumstances. Please remember, however, the conditions. The colony must first have been queenless, and without any brood from which to rear a queen. Now give them some brood, and, after the cells are started, to indicate you have made no mistake, they will accept any laying queen let in by any method that is handiest; and turning her loose at the entrance is just as good as any other way. If, however, robbers are troublesome, I think I would wait until so near dark that no robbers will be flying. I do not remember of ever finding several virgin queens in a hive under such circumstances as you mention. —In regard to skunks, why not poison them, as I mention in my California notes? A method of poisoning is also given in the A B C book. One who is acquainted with the habits of skunks can tell at a glance where they have been at work, by the scratching of gravel and weeds in front of the hive, and also, usually, the marks of their claws on the hive around the entrance.

BEE-VEILS.

THE GLASS FRONT.

IF you will excuse another head-dress for beekeepers, I beg leave to introduce to your readers what is known as the "Ideal" glass-front veil. The great objection, at first urged, of the moisture of the breath forming upon the glass in cool weather, and thereby obstructing the vision, has been overcome in adjusting the glass a little higher, bringing it above the mouth, the breath passing through the veil below; but I must admit that our manner of fastening glass in the body of the veil has not altogether succeeded against the excessive heat in the extreme Southern States for long-continued use.



THE GLASS-FRONT VEIL.

The majority of veils made have been of grena-dine, rubber cord at top and bottom, some preferring the bottom loose to tuck under the vest or suspenders; but my "better half" suggests a cord with a slip-knot below, by all means to come around the dress collar and hook on the dress button, for the wives and daughters. For the glass front we lay claim to the following advantages:

Convenience of arrangement; absolute protection of face and head; freedom of vision; while the glass is large enough to allow a good range of vision, it is so light and strong and ingeniously inserted in the body of the veil as to remove all objections to glass on account of liability to be broken, hence durability. It will not injure the eye by continued use, as friend A. H. K. Blood, of Quincy, Mass., wrote me has happened his eyes by the use of the no-glass veil.

The glass will be broken only through carelessness, and will last for seasons. The sense of complete comfort, and freedom of vision, will more than pay for the care of the glass. I am a practical bee keeper who believes that there are times and conditions necessitating the most experienced to protect their face; at least, discretion is the better part of valor. JNO. C. CAPEHART.

St. Albans, W. Va., July 19, 1889.

We tried your glass-front veil, and did not like it. The glass would continually get out of range—one eye would look through the glass and one eye through the meshes of the veil. The only way to remedy this difficulty would be to make it larger, and that would be impractical. Again, moisture would with us rise from the breath and collect upon the glass, and then it was about as transparent as—well, cheese-cloth. A fine silk brussels-net facing affords almost no obstruction to the eyes, and at the same time it may be made large enough so that it is not at all likely to get out of range. Our glass front finally got broken, and we thought we were careful too.

MY EXPERIENCE WITH CARNIOLANS.

GREAT SWARMERS, AND NO MORE GENTLE THAN ITALIANS.

LAST September and October I bought eight Carniolan queens of Dr. Morrison. I had an unusual amount of trouble in introducing them, losing three. One of the three was apparently introduced and then was missing. I thought perhaps she was a virgin queen, and flew out to meet the drones. I think Dr. M. afterward stated in GLEANINGS that he failed to get his young queens to lay in September and October. At any rate I could not persuade them to lay, and I do not think I raised a bee from one of them until spring. Two of the fine queens were lost in wintering, from lack of stores—the only ones lost in winter out of 37 colonies. This left me three to commence this season with. They bred up rapidly, and began to swarm in May, and have swarmed ever since, or would if permitted to. I think they are rather more inclined to swarm than Italians or blacks. All three hives after swarming filled up with bees from the young queens, and swarmed—one the 12th of July, in a dearth of honey, and one last Friday, Aug. 16th, with no honey coming in. It was a rousing big swarm. To-day I have returned them. I will tell you the condition of the hive:

Common shallow L. hive, 10 frames, and set of sections over them, with no honey-board. Were the sections full of honey? Not a drop. The first comb removed, an outside one, had no honey in the outside; the other side was perhaps a third full, and a few capped cells. The next two combs had

some honey, but no brood. The remaining seven had brood and honey, and perhaps 5 queen-cells capped, which I removed. Then I returned the swarm which stood close by. I should have done it the same day, but I had other work to do. I do not see that they handle any better than the gentle strains of Italians, though I have not had enough of them to give this point a thorough trial. With regard to their honey-gathering qualities, I can form no opinion in this disastrous year.

Walpole, N. H., Aug. 19, 1889. J. L. HUBBARD.

MRS. HARRISON WRITES A BLUE LETTER.

WHAT ARE YOU GOING TO DO ABOUT IT?

WE received a letter lately from Mrs. Chad-dock, who is still playing on the same harp. She says, "It does not pay to bother with bees in this part of the country. I have said so before—I say it again." She is selling honey at 10 cents per pound. How does this compare with the price of honey? I sold six gallons of blackberries at 10 cents per gallon, the purchaser picking them. "Just as nice blackberries as I ever saw have been selling all the season in Ipava for 10 and 12½ cents a gallon." "Wheat crop is poor—some kind of a bug is in the stalk; oats lodged, and wasted about a third."

I saw in the morning's paper that oats were selling at a railroad station in an adjoining county for 18 cts. per bushel. It would be well for those who are continually complaining of the low price of our product, to compare it with other agricultural pursuits. Compute the interest on land, implements, teams, seed, and labor, and note the result; also on our investments in hives, implements, etc., used in the apiary, and compare notes. There has not been a large crop of honey, so far, in Illinois, that I have been able to learn. To much rain, and such cool nights; yet choice honey in one-pound sections has been selling in this city and neighboring towns at a less price than I ever knew it to be sold at before. Some was sent here to a commission house who wanted it out of their way, and they sold it to a huckster for 8 cts. per lb. He must now get his money back, and he hawks it around for 10 cts.; at the same time, grocery men were retailing at 15 cts. "What are you going to do about it?"

Peoria, Ill.

MRS. L. HARRISON.

Mrs. H., suppose you stop raising honey and blackberries and oats, and, in fact, farm crops in general, what other business would you go into? There has been a constant demand—an unfilled want, perhaps—for some kind of business or industry that does not have its ups and downs. But no such thing has been found, that I know of. Remember the statistics. Farmers succeed in at least making an honorable living, 95 times out of 100. No other industry makes a showing any thing near as good; and, in fact, the whole mercantile world makes a showing of 95 failures, sooner or later, out of every 100. I think that, in your own locality, large quantities of honey, blackberries, yes, and oats, have been sold at good prices, notwithstanding the short intervals when these things for a time went away down.

CASES OF SEVERE STINGING; WHISKY AS AN ANTIDOTE.

IS THE REMEDY WORSE THAN THE DISEASE?

NAVING seen the clipping referred to in the *St. Louis Republic* I will say that the circumstance was published in two of our county papers. One said that the man referred to, Mr. Henry Wright, was stung on one ear, and the other on both ears, which last I think is correct, and that he died from the effect of the stings in about 30 minutes. I don't know this to be a positive fact, but I believe it is. I was at Paris, our county seat, last Wednesday, and was told there that it was a fact. I can also give you some more instances of stings that were serious. I have a special friend that lives about nine miles from me, and I have the statement from himself, that, about three weeks ago, his wife received a sting on the back of her head which came very near proving fatal. She became deathly sick, and turned very sick at her stomach. She ate honey very freely, which she could not do when well, and drank whisky freely, which she could not do when well, and two bottles of liniment were used on her, called "Wonderful Light." She turned spotted all over. My friend thinks it was a very narrow escape.

Another case was my little boy, 10 years old, who received a sting on his left breast just a little below the heart, from a bumble-bee. He did not complain much for about half an hour, when he began to swell up in his throat, and could scarcely get his breath. When I saw him in that fix I went for a doctor, thinking he would know what best to do; but while I was gone, my wife, who had a little whisky, gave my boy a little, and he was some better. When I got back with the doctor, which was only a few minutes, he gave some more whisky and some other medicine; I do not know what, but I think it was the whisky that gave him the relief. I am a strong temperance and prohibition man; but my wife had her arm broken some three weeks ago, and the doctor recommended whisky for her. I don't believe it did her a particle of good; but in the bee-stings referred to, I believe it did. There might be, and I believe are, other remedies that would answer in the place; but the doctors will recommend whisky; and as long as we don't know any thing better, we shall have to use it or take nothing.

I will give you one more case—that of myself. I received about 35 stings one day while hiving a swarm in the rain. I got them all over my hands and face, and neck and head, but I did not give up. I should very likely have got very sick if I had given up; but I kept going, and soon got all right again.

J. W. ROUSE.

Santa Fe, Monroe Co., Mo., July 20, 1889.

I am glad to hear you say that you are a strong temperance man. When I began reading your letter I felt afraid that you were not sufficiently aware of the danger of recommending such a remedy. Now, I do not want to be unreasonable, nor do I want to be considered a fanatic in the matter of temperance; but I do think that we had better let a few people die rather than to recommend whisky for every one who becomes frightened at the effects of a bee-sting. You have given us an instance of one man who died from the effects of bee-stings.

Now, is it certain that whisky would have saved him? and is it certain that your friend's wife was saved by whisky? In the case of the little boy who was in danger of choking to death, it was a desperate state of affairs, and I presume likely we should have done as your wife did. But, for all that, have we any good reason for thinking that it was the whisky that saved him? I have already told you of being stung myself, so that my throat began to swell in a way that frightened me. But the swelling ceased and disappeared itself, and that without any remedy whatever. In your concluding sentence it seems to me that you strike at a great truth that can not harm any of us to consider well, and put in practice. You say you should have been very sick if you had given up. Now, I do believe in keeping on at your work when you are stung, or when you are injured in other ways. I believe that nature will take care of things better if you keep on about your regular business—that is, within the bounds of reason. Perhaps while you keep at work you keep up the circulation; and Ernest, who is sitting by while I dictate, suggests that whisky may possibly start the circulation so as to help the system to rally and keep up till the effects of the poison begin to abate. If this is true, whisky may, in this way, save life in some cases. In this matter I feel a great longing for wise counsel from our ablest physicians—those, too, who are not prejudiced in favor of whisky. Nay, further: Let us all pray that the kind Father may guide us safely, and that Satan may not lead us astray in this matter of using so dangerous a poison as a remedy for bee-stings. Once more: It surely is better that a few people should die now and then for the lack of whisky (if they ever do, which I am by no means sure of) than that thousands upon thousands should keep dying continually, and in spite of every thing that the whole world is able to do, because somehow or other they get the taste of whisky and become enslaved by the bad habit.

NO HONEY.

THE SEASON WORSE THAN THE TWO PRECEDING.

THOSE were false prophets who predicted a good honey crop this year. It is even worse than the two or three preceding years. The Middle Atlantic States have been subjected to a literal downpour of rain for the last three or four months, with a fair prospect of a continuance of the same. Apple-bloom was about two weeks earlier than common, and the weather was warm and reasonably fair, so the bees did well and got a good start. Some of the strongest colonies prepared for swarming. Locust, which is abundant here, and poplar (tulip) came into bloom early, following closely the fall of the apple-blossoms, and the bees for a day or so after the opening had warm weather, and fairly tumbled over each other when carrying in their harvest. But the second day after the honey-flow, came the flood of rain, which did not let up till the locust and poplar blossoms were destroyed. White and alsike clover were in the meantime pushing out their

blossoms, but the bees could snatch only an hour now and then—seldom a whole day—to gather the nectar. Some of the very strongest colonies filled a case of sections, mostly in a skimmed, rounded-off, indifferent manner, after their fashion when supplies are scarce.

The rain has continued, day and night, all the time; and the bees had to live partially on what they had gathered. If it ever clears up, the asters, goldenrods, heart's-ease, and other fall honey-producing weeds will give a good fall crop, the wet season having given them a good start; but that little champion "if" stands in the middle of the path of prediction, defying the wisdom of sages. No honey worth naming is the return from all of the Atlantic States, which I believe will include all the country east of the Alleghanies.

E. E. EWING.

Rising Sun, Md.

TROPICAL FRUITS.

DESCRIBED AND PICTURED BY ONE OF OUR MISSIONARIES; ALSO SOMETHING ABOUT THE FRUITS OF THE MISSION WORK.

DEAR BROTHER:—Most of the fruits in this country grow in their natural state; and when your horticultural readers see what splendid specimens we have they will wonder what they might become with proper culture, and effort at improvement. Many of the larger fruits, such as the huge "jack-fruit," on the upper left-hand side of the picture, grow on very big trees. In the States they would be classed among forest-trees, and they appear very strange to the new comer, with these watermelon-shaped fruits hanging from the trunk or larger limbs, just as though they had been artificially tied or fastened there. The durien (*doo-re-en*) tree is also a big one; bigger, indeed, than the "jack." It grows forty and fifty feet, with a spreading top. There is one, however, in our compound that shoots up thirty feet a straight and rather rugged trunk, and then suddenly spreads out, umbrella fashion. The cocoanut is the most kingly and majestic of all trees. The green cocoanut is seen on the left next to the "jack." A cocoanut orchard is a sight never to be forgotten. Their slender, graceful stems, rise from thirty to fifty feet, unbroken by any branch or bump, and terminating in the victorious cluster of waving floods. The trunk is a drab brown, the branches a rich green. The seashores are here and there lined with orchards. Only last Saturday we (Chinese schoolboys, teachers, missionaries and all) went across the harbor and spent the day picnicking under the shade of a cocoanut-palm orchard. We bathed in the surf, ate green cocoanuts (the pulpy meat of which is very nice), lunched, gathered shells from the beach, and toward evening were rowed home over the two miles' journey by Chinese boatman. They stood in the wide rear end of their "sampans," and propelled their boats, facing ahead, by holding the end of their right oar in their left hand and the end of the left oar in their right. I leave it to your readers to find out how they could do this, but I leave them with the assurance that hundreds of them earn a livelihood working in just that position in rowing.

The small round fruit with white pulp in a dark purple shuck is the mangostine. It is seen just at the bottom, on the right of the picture. This is a most luscious and refreshing fruit. The flavor of

a rich grape comes the nearest to it of any thing you have in the States. It is about the size of an ordinary apple, and the tree strongly resembles an apple in shape and in the appearance of the leaves and fruit. The shell makes an imperishable dye, like the walnut shuck. It stains a knife black, and nothing but the juice of the pulp will remove it.

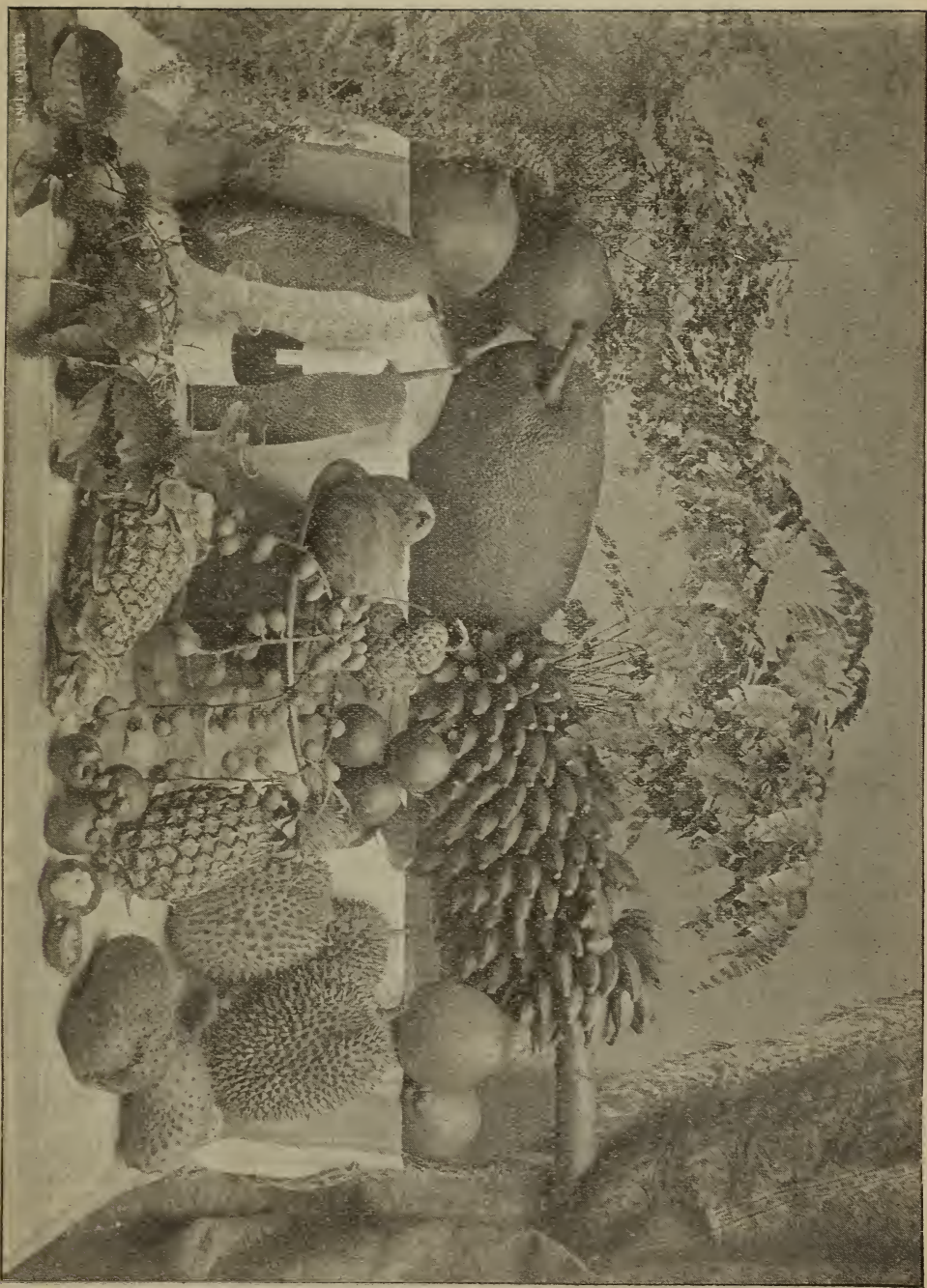
The small fruit, of a hairy appearance, down in the left corner, is the rambutan (*ram-boot-an*). Its name means "hair." Rambut is the Malay word for hair. The fruit is inclosed in a leathery husk or skin which fits closely upon the egg-shaped ball within. When it is opened, the fruit looks like a California grape, but is not so acceptable for eating. It has a big seed, and the juicy, tart (or sweet) pulp adheres firmly to the seed. It is eaten by being put into the mouth, and worried and sucked until the juice is all extracted. It makes fine jelly. Most fruits here are sub-acid, although the oranges on the island are very sour. Some may be seen on the tureen.

The fruit on the left—long, labeled, and corked, is exceedingly common here. More of this is consumed than of any other or all others combined. It produces a peculiar sensation when eaten, and causes sound-minded people to do very foolish things. Other varieties of the same species flourish in America, but I think it will be abandoned there after a few years. It affects Tamils and Chinese just the same as Englishmen, and yet is a source of very great revenue to the Government. I think all who see the picture will agree with me that it is an evil thing, and should be cast out, root and branch.

I ought not to leave the fruits without mentioning how the durien is eaten and relished by some, and how it is not eaten but disliked, even hated, by others. The pulp is very soft, having the consistency of a rich cream custard, which is distributed over the surface of a seed about the size and shape of a bantam's egg. The pulp is kept in shape by a thin film covering the custard. If you add a strong extract of the odor of Limburger cheese and a slight onion flavor, you have the durien. It is very difficult to learn to eat it. Some never learn; but when once acquired, the taste for it grows until it becomes almost a passion. I think there is no fruit in the world so fine. They sell for ten and fifteen cents a pound. Two crops of all fruits grow here every year.

But there are other good fruits I will mention in closing. We have in our Anglo-Chinese school 360, mostly Chinese boys, with their smooth-shaven heads, long pig-tails, and wide coats and trowsers. I teach seventy of them every day, and I have learned to love them dearly, and some of them have already learned to know and to love Jesus Christ.

We have sixteen of them in the boarding department, most of whom come from the wealthiest Chinese homes in this city of nearly 200,000 people, most of whom are Chinamen. One of these boarders is a bright fellow of fifteen who is studying Latin, English analysis, English history, and advanced arithmetic. He is something of a musician, and draws beautifully for one never taught. He heard the Child's Story of the Gospels read at morning prayers for three years; he heard and saw Christianity simplified, and soon came to know and love Jesus. He gave his whole heart to him, and not a day passes but he regularly prays. He has a



TROPICAL FRUITES FROM SINGAPORE; FROM A PHOTOGRAPH FURNISHED BY R. W. MUNSON.

Bible, too, which he reads in English. On last Sabbath for the first time, he having asked to go to our church with me, went up, and, kneeling at the altar, commemorated with us the death and sufferings of Christ. How my heart rejoiced to see it! I brought the cup to him, and by faith I could see him, years hence, preaching Christ to his people, and giving the cup to them as I was then giving it to him. Let all who pray, ask God to bless this dear boy, and make him a blessing to his people.

May 13, 1889.

R. W. MUNSON.

Singapore, Straits Settlement, East Indies.

Friend M., we are exceedingly obliged to you for the beautiful picture and the excellent photograph from which our people have succeeded in making so good an engraving. The picture and description fairly make one's mouth water. I think I should especially like that great big jack-fruit, for I almost always like any thing that anybody else does; and as they are God's gifts, I think it is our duty to be careful how we pass them by with careless indifference. If you had the arranging of the display, I don't quite see why you put in the bottle and glasses. But very likely somebody else who does not feel as you and I do did the arranging. You did not tell us about the beautiful ferns; but I suppose they were put in to set off the whole. I suppose it would not be possible to have these fruits shipped to us as they ship bananas, pineapples, and coconuts, else we should have had them before this time. And now may God bless you in the work you allude to in your closing remarks. I was especially touched with the expression, "I have learned to love them dearly." Dear brother, that is the kind of spirit that wins souls. When we love humanity for Christ's sake, we are on the right path; yes, when we get where we can love even our enemies, the work is almost done; for, in the majority of cases, before we have loved them long they are enemies no longer. We say amen to your concluding sentence. May God bless not only that dear boy, but a thousand more, and raise him up to do the work that needs doing.

CUBA AND ITS HONEY RESOURCES.

OUR OLD FRIEND A. J. KING DISCUSSES SOME OF THE POSSIBILITIES OF DEVELOPMENT ON THIS ISLAND; AN INTERESTING LETTER.

OCCASIONAL letters of inquiry, and articles from time to time in your columns, relating to bee-keeping in Cuba, induce me to contribute a paper for the information of any who may be thinking of emigrating thither in order to better their condition as honey-producers or otherwise. To premise, I have visited the island three times, and, in the aggregate, spent more than a year in founding and operating apiaries, so that what I have to say is derived from experience rather than theory or second-hand information.

The island of Cuba, from its most eastern point to its western terminus, is about 700 miles long, and has an average breadth of about 66 miles. A range of mountains, occupying nearly a central position,

traverses its entire length, in miniature much resembling the backbone of a fish. In the eastern portion they attain a height of from 5000 to 6000 feet above sea-level. As they approach the west, they gradually diminish in height and abruptness, until within 300 miles of their western terminus they will average only from 1000 to 1500 feet high, and the declivities are so gentle that in many portions they admit of profitable cultivation over their entire surface. Numerous small streams, originating in these mountains, flow north and south to the sea, being often diverted from their courses by solitary peaks and ranges of hills, giving rise to numerous beautiful and highly fertile valleys, capable of supporting a dense population. While most of the coast-line is undulating, yet there are in some portions near the river-mouths quite extensive tracts of level lands, sometimes marshy. Considerable forests abound, especially on the eastern and southern declivities, and are, or should be, valuable on account of their fine hard woods. I obtained at one mill 19 varieties, cut in the immediate vicinity, embracing ebony, cedro, hookero, mahogany, and others equally valuable, but of names not easily pronounced. The proprietor was under contract to furnish a railroad company several hundred thousand ties, 5x8 inches square, and mostly mahogany. It seemed to me a pity that such magnificent timber, fit for the finest of cabinet work, should be used for such a purpose.

ITS VEGETATION.

Nearly all vegetables raised in the United States do fairly well here. Northern fruits are cultivated to a very limited extent on the higher portions of the island; but as a rule they are not well adapted to the climate. Tropical and semi-tropical fruits in great variety are plentiful in nearly all places, and at all seasons of the year, so that one does not greatly miss any thing in that line. Oranges, limes, lemons, etc., which in our own Florida require for their successful culture time, money, and knowledge, grow here in profusion with little or no attention.

The production of sugar, tobacco, and coffee, are the three leading industries depended on for money-making. Yet with a little American sagacity there are scores of other occupations which might be made equally remunerative, both in the agricultural and manufacturing line. A field of sugar-cane, once planted, is good for from 10 to 20 years without replanting, and the enriching of the soil by manuring is something I never yet have witnessed in Cuba. To give your readers a more concrete idea of the immense fertility of Cuba lands, it may be stated that, in 1878, over one-third of all the world's supply of sugar was produced on this island. Couple this with the fact that only a little more than one-fourth of the land is under cultivation, and only a portion of this devoted to cane-fields, and you begin to realize something of the future possibilities of this neglected country, should it ever come under the starry banner of Uncle Samuel.

I should like to speak of the romantic and beautiful scenery of mountain and valley; the caves and grottoes glistening in the torch light like millions of diamonds; the hillsides covered with royal palms (the queen of all trees); the splendid water, the general healthfulness of the climate, and a dozen other subjects of more or less importance; but as I am writing for a bee-paper I must forbear,

and devote the remainder of what I have to say, more in a "bee-line."

A. J. KING'S APIARIES.

On my first trip to Cuba I took 100 colonies of Italians, and located them near Havana; but as this apiary has been noticed in several back numbers of GLEANINGS, I refer the reader to those notices. The second apiary I located near Puerto Principe, about 500 miles east of Havana, starting with less than 20 stocks of Italians, and transferring native bees. They were increased to 400 stocks; but as I could not remain, and the help provided for their care being mostly native, and all inexperienced in modern bee-keeping, they have not prospered as they surely would have done under proper management. The third and fourth apiaries I established near Sagua la Grande, 180 miles east of Havana, on the headwaters of the Sagua River, midway between Toboca on the north and Cienfuegos on the south side of the island. One of these was fitted up on the best principles, and with all modern appliances, at a cost of over \$3000. It had just commenced to realize our most sanguine expectations, and would to-day, I believe, be the *finest apiary in the world*, had it not been for that

TERRIBLE CYCLONE

which last year devastated many parts of the island, and of which Sagua was the center. The hurricane, accompanied by a terrible downpour of water, continued with unabated fury for many hours, completely wrecking every thing in its course. Sagua alone, a place of 6000 inhabitants, suffered to the extent of 100 lives lost, and \$4,000,000 worth of property destroyed. The forests were wrecked. The water in the river backed up and covered large spaces never before inundated, and of course the new apiaries shared in the general ruin.

A WELL-EQUIPPED APIARY DESTROYED.

The main shed in our best apiary was 300 feet long, 12 feet wide, and 10 feet high. The posts were 10 inches in diameter, set 10 feet apart and 3½ feet in the ground. The peak roof was well provided with rafters, and heavily thatched with the leaves of the fan palm, which extended down below the eaves to within four feet of the ground. The extracting-room, connected with one end of this shed, was a frame building 20 feet high, of fine proportions, and built in the most substantial manner. Throughout the length of this shed and extracting-room, and 500 feet further, down to the shipping-room on the river-bank, was a narrow-gauge railroad track, provided with low platform cars on which the long boxes of comb were carried to and from the apiary to the extracting-room and thence with their 1200-lb. tierces of honey to the shipping-room. Our extracting-room was provided with a receiving-pan of galvanized boiler iron, 14 feet long, 7 feet wide, and 14 inches deep, with large faucet at one end by which the honey was conveyed into the bungs of the tierces, with no dipping or lifting at all. The honey from the uncapping-table, after passing through a strainer, also emptied into this pan. The two-story hives, one foot apart, were placed just inside the line of the eaves of the sheds, and faced outward from each side, so that the sheds were comparatively free from bees, and were cool and invigorating, even in the hottest weather. The frames in the upper story came flush with the top of the hive, were covered with enameled cloth on which the flat cover fit closely, and were kept

from warping by two cleats, which also held them securely in place. By this arrangement the cover is never stuck fast, and the tops of the frames are always clean. The fact that, with an assistant, I have extracted 126 of these top stories in a single day, and replaced the combs, will give the reader some idea of the value of the most perfect appliances possible in our work. This apiary is rebuilding, and replenished under the direction of an American, although born in Cuba, and will doubtless speak for itself soon.

A. J. KING.

New York, August, 1889.

To be continued.

Why, friend King, what a grand place Cuba would be for gardening—no frost, no prolonged drouths, and, to crown it all, no need of fertilizers or manure! Why should she not furnish the world with sugar, or almost anything else? I confess that I for one am greatly obliged to you for these interesting particulars. No wonder that Cuban honey can be sold at a low price.

H. R. BOARDMAN REVIEWS THE SEASON.

MIGRATORY BEE-KEEPING, AND ITS POSSIBILITIES.

I AM always quite anxious, at the close of the honey season, to compare notes with my neighbors; and especially is this so when I am short in my honey crop, as is the case again this year. If any one has a larger yield than I have, I want to know it and find out how he got it; accordingly, when the season closed and I had taken a long breath and a brief inventory of what had been accomplished in my own apiaries, I started out on a tour of inspection among my neighbors. I have been able to gain but the one consolation—that I am no worse off than my unfortunate neighbors, or, in other words, that my neighbors have done as poorly as I have. I found about the same condition everywhere I went. At every apiary I visited it was the same story of cold and wet weather in the fore part of the season; starvation at the critical time when breeding would have furnished bees for the harvest, and little or no surplus is the universal result. Where colonies were braced up by a little judicious feeding at the proper time, the extra care and expense of such feeding was liberally repaid, *as it always is*.

I was pleased to find in one instance an exception to this general poor condition of the apiaries. It was in the Bronson apiary of Mr. S. F. Newman, of Norwalk. You may remember that he reported quite a boom at that apiary last season on pea-vine clover, which is extensively raised in that locality. This apiary is again showing the advantages of location at particular seasons. I found the bees at this place doing good work in storing surplus, while they were almost entirely idle at other localities only a few miles distant. Mr. Newman was quite pleased over his good prospects, as well he might be.

This suggests the subject that was uppermost in my mind in my excursions, and about which beekeepers seem anxious at the present time to learn more.

MIGRATORY BEE-KEEPING.

Does it pay to move bees to catch the local honey-flow? and if so, how can we best make it pay? I

think it certainly does pay, if—and upon this *if* hinges the whole of migratory bee-keeping. If we could determine beforehand as to the resources of the different localities within our reach, so that we could have our workers at the desirable place in time for the honey-flow, then it would pay to move our bees to these best places rather than leave them in a poorer one.

Bee-keepers are beginning to realize, as they never have before, the value of location. The difference in the honey-flow of places only a few miles apart is sometimes astonishing. But it is important that we know of this difference before the honey-flow has demonstrated it, or else we are too late to take advantage of it. We can sometimes guess pretty close, and then, again, we might guess and get left. To illustrate: I decided this season to consolidate my apiaries as far as possible, in order to curtail expenses. Of course, I desired to abandon the poorest locations in favor of the best. Accordingly, I abandoned No. 2 and moved the bees, part to Berlin, which has always been my best location, and part to my home apiary. Hartland apiary I also proposed to abandon, and move the bees to the same yards, as it had always been my poorest location. But one thing crowded upon another until near the beginning of the honey season; and the prospects being so very discouraging, I changed my mind. Tiering up the colonies in this yard with empty combs, I left them to care for themselves, except an occasional visit to see how they were getting along. Now see how wisely I had planned: Hartland apiary proved the best location I had this season, and Berlin the poorest. That was the result of local showers, a cause entirely beyond human foresight.

Last season, in a trip out upon the prairie, ten or twelve miles distant, I discovered that the bees there were doing quite rapid work upon the extensive buckwheat fields raised in that locality, while the bees in my apiaries were entirely idle. I rushed home and prepared a load of bees, and moved them to this locality with as little delay as possible, for the bees there had been doing this good work already for about ten days. They were busy at work bringing in buckwheat honey in a few minutes after being released, as though they had known all about these prairie fields for a long time. In just one week I visited them again. The work they had done in those seven days surprised and delighted me. In preparing these bees to move, I shook them off the combs into hives with empty frames, with only starters, so they began anew without a cell of comb or a drop of honey, unless they were thoughtful enough to bring it with them. I found at this visit the hives averaging two-thirds full of most beautiful all worker comb, well stored. But here the work stopped. Cold and unfavorable weather came on, and continued until the bloom was past. Had I been able to place my bees there ten days earlier, and had favorable weather prevailed during the bloom, the result would have been very gratifying. As it was, I decided that the seven days' work that I did get paid me for moving. I felt quite enthusiastic over the result, and thought I saw some grand possibilities in the future of migratory bee-keeping. I decided to have my bees out upon those prairie fields the next season, and not be caught napping again. This was among the localities visited by me; but the prospect looked quite different from last season. The

usual amount of buckwheat had not been put out, and the locality offered no inducements for moving my bees there again. This season I was a little disappointed—yes, sir, I was; yet I shall endeavor to keep posted in the local prospects for a honey crop, and move my bees whenever I think it will pay to do so. Although I failed to discover any desirable fields to which I could profitably migrate with my bees, I did discover in the bee-yards of my neighbors quite a large-sized bone which I may take occasion to pick with them some time in the near future.

H. R. BOARDMAN.

East Townsend, Ohio, Aug. 1, 1889.

Friend B., you have given us some very valuable points. I am very glad to hear this testimony in favor of the peavine clover, for I feel sure that this clover is a fore-runner of prosperity in any locality, not only for the bee-keeper, but for the farmer; for whether he plows it under or whether he cures it for hay, he does a good thing, as a rule. I have long thought of just this very thing you mention in migratory bee-keeping; and, you may remember, in the A B C book I suggest planting colonies in different points throughout the country, to indicate what is going on. This fact will confront us, however, that one colony will do a pretty big thing where 40 or 50 will not. I think, however, it will pay the man who proposes to move his bees to catch the honey-flow, to test different points, say within ten miles or more of his home. I was also already aware that the locality that proves best one season may be the next just the other way. I did not know, however, that it was local rains that caused it. The crops a farmer may take a notion to raise may have a great deal to do with it, as in your case of the buckwheat. Why not have some land in a buckwheat region, or rent some land, or, if you choose, pay the farmers in that vicinity so much per acre for having them sow buckwheat rather than some other crop? Furnishing the seed will often turn the scale.

AMONG THE BEE-KEEPERS OF VERMONT.

A VISIT TO MR. HOLMES' APIARY AND OTHERS'.

THE next day, after viewing awhile, and enjoying this view, we were driven northward to the Cream Hill apiary of Mrs. Wolcott, of Shoreham, whose husband, now deceased, was a leading and successful bee-keeper. This apiary is now managed by Mr. R. H. Holmes, who has an apiary of his own in another part of the town. Here were 142 colonies in chaff hives, numbered and arranged in groups. The spring count was 122, and 330 lbs. of comb honey was secured. Here was the best and most convenient little honey-house and work-shop combined we have seen anywhere. It was 16 by 22 feet, one story and a half high, and clapboarded and painted. Below were two rooms, the honey-room occupying the south half and the work-room the remainder. The latter contained a stove, and was fitted with convenient work-benches. Above was a loft with one window in the south end, and connected with the work-room by convenient stairs.

Every thing seemed adapted to its purpose, and was neatly arranged. A good part of the crop was

in the honey-room, and was very fine. The shipping-cases here were marked in colors, and with the most tasty and attractive stencil designs we have seen.

The next apiary visited was that of B. W. Hall, a few miles away. He is a manly and gentlemanly young man, the son of a farmer. He keeps bees because there is money in it, and not from any special taste for it. He has 70 colonies in chaff hives, with *movable outer cases*. He had in spring 53 colonies, and obtained 2000 lbs. of honey, comb and extracted, the former in 2-lb. sections.

He has a honey-house similar to Mrs. Wolcott's, though larger. After being courteously entertained here we made a call on Miss M. A. Douglas, well known as the secretary of the Vermont Bee-keepers' Association, and a successful lady bee-keeper. Our time being limited, we were obliged to make a hurried call. This lady had in spring 29 colonies; increased to 34, and obtained 700 lbs. of honey in 2-lb. sections. Her comb honey was the finest exhibited at the Bay State Fair, held in Springfield, last fall, and was awarded first premium. She commenced in 1883, and finds she can do most of the work herself. When there is occasional lifting or heavy work she calls on one better fitted to do it.

We next visited the home yard of Mr. Holmes; but as he was away we were obliged to postpone our interview; and instead of continuing our journey by rail we availed ourself of friend Larrabee's hospitality another night. The next day both of us dined with Mr. Holmes, and inspected his apiary; and I must say that the finest and neatest prepared sections of comb honey we have seen were at this gentleman's place. In scraping sections he uses a narrow-handled pocket-knife, with the thick blade ground short and to a point. He is assisted in this work by his wife and daughters.

In the spring of 1888 he had 92 colonies; increased to 100, and obtained 2200 lbs. of comb honey in one-pound and half-pound sections, which are put on the market both glassed and in paper cartons. He uses the movable outer cases for winter, though somewhat different from those used by either Crane or Manum. He packs beneath the colony also. He uses the Langstroth size of frame, because on it bees are more salable. The hives are painted and numbered, and arranged in rows. Mr. Holmes was at one time in the employ of Mr. Crane, and partly follows his methods. He was formerly secretary of the Vermont Bee-keepers' Association, and is now its president. We found him well posted and thoroughly practical. An opinion expressed was first carefully weighed. He is a professing Christian, and, in our opinion, is a reliable man.

After a profitable call and very satisfactory dinner here, friend Larrabee took us to the train, where we took leave of him, hoping that we might have an opportunity to return his favors, and feeling that the bee-keeping world would hear from him in the future. This winter he was elected secretary of the Vermont Bee-keepers' Association, Miss Douglas having resigned. We would whisper aside, and in confidence to our friends, that, though John is very kind and friendly, his hair is inclined to be sandy, and it won't do to pull it roughly.

Our next stop was with Mr. N. V. Forbes, a bee-keeping farmer in West Haven. Having a good location he has done well, and thinks some of renting his land and attending to the bees. He had 75 colonies, and a crop of 2000 lbs. of comb honey as the

season's results. In 1887, from 80 colonies in two yards he obtained 6000 lbs.; and in 1888, 80 lbs. per colony. Mr. Forbes kindly took us to visit Mr. Eugene Lee, of Benson, a neighboring bee-keeper, and quite an extensive dairy farmer. Among those bee-keepers we could not visit were V. V. Blackmer, of Orwell; H. L. Leonard, of Brandon; W. H. Proctor, Fair Haven, and many others.

Mr. Blackmer, a bee-keeper of ten years, has 100 colonies, which have paid their way from a small commencement. Mr. Leonard has 100 colonies. Some of the bee-keepers in the region have become well off through their bees.

Pawtucket, R. I.

SAMUEL CUSHMAN.

To be continued.

INTRODUCING.

A METHOD OF INTRODUCING QUEENS TO FULL COLONIES, WITHOUT REMOVING A COMB OR EVEN OPENING THE HIVE.

THERE are many novices and others interested in bees who would buy a queen of a given race or strain if they could only introduce them in a simple and sure manner without opening the hive after dequeening it. Then there are the box-hive people and those careless people who allow their bees to build crosswise on the hanging frames, all of whom would buy queens if they could be introduced with safety. There are many who are afraid of their bees, and hardly dare open the hives at all. A man wrote me recently, saying, "I want a queen of your strain, but, to tell the truth, I dare not introduce her. My bees are very cross."

My method of accomplishing this end is as follows: On the day the queen arrives, or before, go to the hive where you wish to introduce her and dequeen it, either by drumming out or removing the frames. Adjust a small box-feeder, that can be closed tight to the top of the hive, directly over the combs, and so arranged that the bees can enter the feeder directly from the brood. Give them about a pint of thin syrup; close the hive and leave it for 24 hours in this queenless condition.

On the next day, about 4 o'clock, go to them with the queen that was received the day before, and, after turning in more of the feed, place the cage on the float, so arranged that all the bees can cluster over the screen-cloth on the cage, and "get acquainted with her majesty," as Mr. Root terms it. I do this so that the new queen, cage, and attendants, may absorb the same odor as the hive, rather than for acquaintance' sake, which I think is a more correct way of putting it.

After you make sure that the cage is above water, and will remain there, and that you have left plenty of room for the bees to pass over the cage, close the hive, and leave them until about 9 o'clock the next morning, when you will go to them again, remove the cage, and turn back the wire cloth at the provision end far enough to allow the queen to pass. Plug this entrance full of candy; pour a little syrup into the feeder, place the cage back on to the float, and close the hive. Do not open again for a week.

The above is almost infallible. I have used it two seasons successfully. I have allowed queens to leave cages after the first 24 hours, with success.

If robbing is rife, do all feeding at sundown, and do not release the queen until after 4 o'clock. For

introducing by this method to a hive which has just cast a swarm, precaution must be taken that I will not state here. The feeding drives the old bees to the field with a rush. Old bees are enemies to strange queens. Queens can be kept for several days without injury, by placing them, as shipped, in a small light-proof box in any dry cool place. I always keep mine in the honey-house on a shelf near a small window. During cool weather, take the box into the kitchen. I never feed queens honey while in confinement. It does more harm than good.

I do not introduce by the Peet method of attaching to the comb and removing slide—it is too fussy, amounts to nothing, and is fatal to the queen, in the hands of a novice. I am using the Peet cage, though I do not like it. It is expensive in every sense of the word.

E. L. PRATT.

Marlboro, Mass.

Friend P., while we publish your plan of introducing we want to protest a little in regard to the heading which you put on the article. Drumming out bees to get the queens is not a new method, but one so old that it was in use before movable combs were known; neither is feeding a colony to make them good-natured new; and I do not see very well how we are going to do this feeding without opening the hive. It is true, you may put the feeder on top of the hive, but then you must make an opening in the top board and have some sort of cap or box over the feeder.

In regard to the Peet method, I presume that I am the one who first suggested selling queens at the low price of one dollar each; and I think that, without question, during the past ten years we have sent out more queens by mail than any other one person—perhaps more than all of the rest of the world together. In fact, during all the spring, fall, and summer months, the queens are constantly on our table, ready to be mailed by the first train, to any one who wants them, south, north, east, or west. As a matter of course, it has been of the utmost moment to us to select some method, not only of sending queens by mail, but some plan that would permit our patrons to introduce them with the least possible risk. Well, after having tried so many different plans that everybody began to get out of patience, to say nothing of the expense of such experiments, we finally settled down on the Peet cage. We have used this cage for years, and I am firmly satisfied that, for a feeble queen (and they are generally more or less weakened by a long trip through the mails), there is no other plan to be compared with letting the queen right on the comb in the hive, and letting her help herself to the honey in the cells, at the same time having her in the center of the brood-nest, her natural and proper place. Queens get discouraged, dejected, and ready to die. I have oftentimes thought that they get homesick, just as we mortals do. Well, now, can any thing revive her drooping spirits, and make her feel as if she were once more at home among the loved ones, like being on a honey-comb, in the center of a hive? I do not believe on a float in a feeder. The feeding part is all

right. During a dearth of honey in the fall, a good heavy feed will contribute very greatly toward putting the bees all in a friendly and amicable mood, provided you do not get robbing started. I have replied thus at length, because of late there seems to be a fresh interest starting up in this matter of introducing.

HONEY IS DIGESTED NECTAR.

Shall the Great Big School of Humanity be Taught the Truth, or shall We Now and Then Keep the Truth from Them?

PROFESSOR COOK FINDS A LITTLE FAULT.

OUR friend Demaree has now a recruit—a doctor. This doctor—see last *American Bee Journal*—makes several assertions that just a little knowledge of chemistry would have prevented. Is it possible that our "M. D.'s" know nothing of chemistry? Such articles may possibly be excused in a lawyer, but from a doctor they are certainly indefensible. Even a lawyer should not attempt to enlighten the public on what he knows nothing about. His ignorance may be excusable; his misrepresentation and pose as a teacher are never venial. To say that nectar and honey are the same, or that sugar syrup fed to bees is identical with the honey placed in the combs, is to show entire ignorance of the subject. It is too bad that such men will write. Now, Mr. Editor, why do not you editors get a little blue litmus paper and a little copper sulphate, or, better, Fehling's solution, and prove for yourselves the truth of this matter? Then when such articles are sent in, throw them into the waste-basket. You would not insert an article about the king-bee. To say that honey and nectar are the same, is as absurd as to say that there is a king-bee.

Again, it is urged that calling honey digested nectar is revolting, and will injure the sale of this delightful sweet. This is fear with no cause to stand on. Honey is good, and will be eaten. Almost all our green peas are wormy. People know it, but they eat peas, and will so long as they are so good. To the uninitiated, the idea of eating oysters would be revolting. Here the animal is eaten entire, with the digestive canal and its entire contents. Yet oysters are good, and will be eaten *in extenso*, so long as the quality remains, and men have a taste for good food. So it will be with oysters. Truth and honesty are always the best policy. Better "tell the truth and shame the devil" than to preach lies and delight him, even though we could sell a little more honey.

VIRGIN'S BOWER.

Our friend Geo. E. Hilton sends me the following letter: "The inclosed flowers are from a plant that grows abundantly here in the swamps. It clings to bushes which it often entirely covers, and is a great favorite with the bees. In watching closely to-day I could see no pollen. As you will remember, I had a sample of the honey at Detroit. What is it?"

This is the beautiful "virgin's bower," *Clematis Virginiana*. It is not strange that Mr. Hilton did not see any pollen. This plant is dioecious; that is, the stamens bearing the pollen are on one plant, while the pistils which are to receive the pollen are on another. In such cases the flowers must secrete nectar to exist, as bees or other sweet-loving insects

must act as the so-called "marriage-priest." We have only to know the structure of such plants, to know that they are honey-plants. We may be glad that this clematis is a honey-plant, as it, like the goldenrod, willow herb, and clover, is exceedingly beautiful.

SPRAYING AND POISONING BEES.

Do not think me over-sensitive. I am sure I am not. I do not believe I have a morbidly sensitive hair in my capillary covering; but when I say that I was dumbfounded to read Mr. Alley's censure, in the last *Apiculturist*, of my earnest endeavor to inform all the people of the wrong and evil of spraying fruit-trees while yet in blossom, is to put it mildly. Think of an American, in the nineteenth century, and a Massachusetts man at that, urging against giving information on an important practical question because, forsooth, some person might make use of this information to work evil! Mr. Alley says I have informed the people how they may destroy bees; and thus the enemies of bee-keepers will have opportunity, and will use this opportunity to injure those whom they dislike. This is certainly a sorry opinion of our people. I believe it is a wholly unwarranted suspicion. The truth that it is dangerous and wrong, and utterly unnecessary to spray fruit-trees with poisons while the blossoms are still on, should be sown broadcast. Every fruit-grower should know and keenly appreciate the fact that, to poison the nectar in the blossoms, is to injure both his neighbor bee-keeper and also himself. He needs the work of the bees no less than does the apiarist. I would have laws enacted against this early spraying, and make the punishment both fine and imprisonment. Not that this is necessary to secure against the evil, but it would be a very rapid educator. I believe it is very important that bee-keepers take all pains to make the truth in this case generally known. If people know the consequences, they will practice the correct method.

Agricultural College, Mich.

A. J. Cook.

Friend Cook, as a rule we prefer not to publish any thing criticising other journals or writers of other journals; but we trust that our good friends of the *American Bee Journal* and the *Apiculturist* will excuse us this time, especially as it comes from Prof. Cook, and as you give us so much truth. One little remark you let drop caused me to smile; viz., "Almost all our green peas are wormy." Some time ago my sister informed me that the peas we were selling had little worms in them that could be seen with a magnifying-glass. These worms are doubtless the larvæ of the pea-weevil. Of course, the peas planted contain no weevil, because we get them from northern localities where the weevil has as yet been unknown. Now, the question came up, "Shall we sell peas to people, knowing that the peas contain little worms that could be found with a magnifying-glass?" I said at once just as you say. If the peas are good, and no one can possibly discover by the taste the presence of these embryo weevil, without the aid of a magnifying-glass, I would certainly pay no attention to them. In fact, there is such a thing as making one's self disagreeable by being over-fastidious. At one time our folks in charge of the lunch-room informed me that there were worms in the rice. I suggested that it was probably near

the mouth of the bag, and that they could easily be removed. Then we could heat the remainder of the rice in the oven until all the germs were killed. Some of the boarders found it out, however, and there was going to be quite a breeze because we used articles for food that should be thrown to the chickens or into the compost-heap. Now, I have no doubt that good food has been thoughtlessly thrown away because of a certain foolish notion that nothing should ever be used where the worms have been found in it, even near the mouth of the bag. I attempted a little remonstrance; but public opinion was against me. In a few days after that, we had some high-priced chestnuts. Somebody found a *wormy chestnut*; whereupon I suggested that the whole bagful, which cost between five and ten dollars, be given to the pigs. They opened their eyes in astonishment. Wormy chestnuts and wormy apples are so very common that folks are used to them; and even if the worms should get into your mouth, there is no need of fainting away or of sending for a doctor. Now, I heartily agree with friend Cook. If people will refuse to eat honey because we teach that it is taken in at the mouth of the bee, and then thrown up in the same way, when it is put into the honey-cells, let them refuse; and the same way with green peas or with oysters; and I think exactly the same way about the dissemination of information in regard to spraying fruit-trees. I am sure that I have no neighbors, or, rather, no enemies, that would willingly poison my bees; and when it becomes necessary for me to keep the community in the dark, or in ignorance, I shall have a poorer opinion of my fellow-men than I now have. It is this same ignorance that has caused the foolish and wide-spread belief that comb honey is manufactured.

MORE ABOUT THAT INTERESTING EXPERIMENT.

FURTHER FACTS UPON HOW IT WAS DONE.

IN answer to the queries which you raise in GLEANINGS, p. 618, I will say it is true that I commenced June 7 with a single colony and its swarm, each of which contained nine frames. I divided the said colony, six days after it swarmed, into three colonies, and I also made one out of the swarm shortly after the brood was sealed, by taking the queen and the three frames which had the least brood, and a small share of the bees, leaving the remaining six frames ten days longer to make queen-cells, when I divided it again, making use of all the queen-cells. This made six colonies, so that I had not less than three frames in any of them. This brought me to the 27th of June. About the 5th of July I made three more colonies from the six, making nine in all.

You say you presume I did not get any brood from other colonies. No, not an egg nor a queen-cell, nor any stimulation whatever, other than the sugar I fed them, for that is what I set out to do, as I stated in the beginning of my report; viz., to compel them to draw out their own combs, lay their own eggs, build their own queen-cells, and hatch their own queens; and I did so.

I should have said in my report, that I had no other colony than the one in question, save one; for that spring, and the spring preceding, I sold my bees, keeping but two—one for honey, for family use, and one to experiment upon. Of late years I keep bees only for the love of them, and for the enjoyment of sitting under the cherry-trees and watching them at their work. The above, I presume, is an answer to your last query, viz., if I kept any account of my time. I can only say that there was no time lost; but if it must be considered lost, I can say that I enjoy that loss more than I do the profit (however great) or the employment of my time. I may say that I am an invalid, entered upon my 73d year, and am very feeble—more so than some in this vicinity 15 or 20 years older. Of course, then, my time would be of little consequence.

Whigville, O., Aug. 7, 1889.

HENRY LARGE.

Many thanks, friend L. Your further facts remind me of my strawberry story in another column.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

HALF DRONE AND HALF WORKER.

I mail you to-day some Italian bees from a fine select tested queen reared this season. Five of the bees have heads and shoulders like drones, and abdomens like workers. They also have stings; and as soon as they hatch they crawl out of the hive on to the ground. All of the bees are fine yellow, three and four banded, except a few of the queer ones, which are black, like the one in the cage. This is the first queen that I ever raised that produced half worker and half drones, as I call them. As I do not recollect of seeing any account of such strange bees, I should like you to explain through GLEANINGS what they are, and whether you think there is any black blood in the queen by some of the queer bees being black. My bees have done very well this year.

C. F. GRUBB.

Jubilee, N. C., July 29, 1889.

Half drone and half workers have been noticed a great many times, and have frequently been mentioned. It is nothing more, I believe, than a freak of nature, or a malformation.

THAT NEW BEE-DISEASE IN CALIFORNIA; LATER DEVELOPMENTS.

I am happy to say that the plague, of which I wrote, see page 583, is now apparently subsiding; and bees that have survived seem to be rapidly recuperating. Losses in the apiaries under my immediate control amount to about 250 stands—enough to make one feel decidedly sick, and to test thoroughly the virtue in man for which our ancient friend Job was celebrated. I am negotiating, with the view to acquiring new stock, should indications continue favorable. A feature of the disease is, that in all cases it doesn't prove fatal. A number of colonies that were badly affected last season have pulled through, and are strong and prosperous now. The same might be said of this season. I also put new colonies upon combs and honey from diseased hives of last season, many of which are in good condition to-day. I learn from an old resident, that this is the third time bees have died in large numbers here within twenty years. Whether it

has affected other localities, I am not as yet able to learn. Why we should be thus afflicted is at present mysterious. While in the coast counties foul brood is common, none has ever been seen in Kern Co. We are a dry county, and depend entirely upon irrigation. The average rainfall is about 4 inches per annum. The honey crop will not be over 50 per cent of the average yield this season.

ALFALFA.

In your comments on friend Burr's letter you ask for information in regard to alfalfa. My opinion is, that, as a honey-plant in the States, it would have little value, for the reason that it appears to secrete honey only under the most favorable conditions of dry heat, and only in the middle of the day; that is, no doubt, the reason why so many doubt its value as a honey plant. With us it is the foundation and superstructure of the honey yield. We have several plants and willows which build up the bees in spring, but alfalfa is the backbone of the crop.

W. A. WEBSTER.

Bakersfield, Cal., July 25, 1889.

CARNIOLANS EXCESSIVE SWARMERS.

Since writing our article on Carniolans, we have noticed the following in regard to them, which we take from the *British Bee Journal*, page 309:

There were some remarks lately about these bees, and I must corroborate what is mentioned; and so far as I am concerned they are nothing less than a nuisance, owing to the way they swarm. I got a nucleus last year, from a good source, a well-known party in the B. B. J., and I now wish I had let them alone. Let me give you the result. First swarm came off about a month ago. I then changed stock to a new stand, and put swarm on the old one. Second swarm came out of the old stock about a fortnight after, and up to the present the first swarm has thrown three swarms, good-sized ones too, and I can not get them to work on the sections, though I had them on all the swarming time. My hives are all standards. What is to be done with them? No doubt they are good breeders, but what good is that if it is honey you want and not bees? Up to the present I find no bees working as well in the sections as they ought and have done other years. I wish others would give their experience of the Carniolans.—H. J.

TOP-BARS, ABOVE WHICH NO BURR-COMBS WILL BE BUILT.

In answer to the inquiry concerning the modification of the top-bar of the frame to prevent burr-comb, I will say that it can be done. In 1888 I made a number of frames having top-bars $\frac{3}{4}$ inches square, and spaced them $\frac{3}{4}$ inches apart in the hive. There has been no burr-comb built on them thus far (two years), though other frames immediately alongside of them had them. I have tried them with honey-board and without.

TO GET THE TOP ROW OF CELLS IN SECTIONS CAPPED.

C. F. McColm can get the top row of cells capped over by tiering up and not leaving a bee-space between the sections, and then crowding the bees; but they will likely build them against the separators, so that his sections will drip badly. Such has been my experience.

TOBACCO PLEDGE.

I quit using tobacco about a year ago, after reading GLEANINGS. If I am entitled to a smoker, send it along. I will pay for it if I begin again.

Lewisburg, Pa., Aug. 6, 1889.

W. C. MAUSER.

May God bless you, friend M., in holding on to your tobacco pledge. No honey report gives me such a thrill of pleasure as does the

news that another friend has given up tobacco, washed his hands (and his mouth), and taken a step a little higher up among clean, pure people, even though it has cost something to say, "Get thee behind me, Satan."

RECIPE FOR RAISING SPIDER-PLANTS.

Feed the seed to your poultry. Clean out the fowl-house and sow the contents on the borders, and you will probably have an unlimited supply of strong plants. I have never sown a seed except the first packet I got from you. My fowls are fond of the seed, and help themselves from the plants. I could supply hundreds of plants any time all the year round. It grows here equally well, both in summer and winter time. I have always some plants in bloom. The bees are particularly fond of playing about it; but so far as I can make out, they do not get a large quantity of honey from it. This has been an exceedingly poor season for honey all over Australia.

IGNOTUM TOMATO.

I duly received the packet of Ignotum tomato seed from you. I planted them and got a beautiful row of plants, just ready for transplanting, when a most wretched goose got into the garden and nipped off every solitary head of the Ignotum close to the ground, although there were hundreds of the commoner sorts she might have feasted on. Will you oblige me with another packet of seed, of which I certainly will take greater care?

ÆNEAS WALKER.

Redland Bay, Queensland, Aus., May 13, 1889.

Well done, friend W. I am provoked almost every season by failing to get spider-plants in our greenhouses or hot-beds; but a little later on, when the weather is warm, they come up with astonishing rapidity among the weeds in different parts of our grounds, where they were cultivated perhaps years before; and of late we have sort o' given up, and depended for what we raise for our honey-garden, on the chance of picking them up. The consequence is, we do not get any bloom before August. It seems a little singular how many mishaps like the one you mention occur with the Ignotum tomato-plants. We always keep seed on hand to replace that destroyed by such mishaps.

TOP-BARS $\frac{3}{8}$ IN. SQUARE, AND NO BURR-COMBS.

In corroboration of the experience of A. L. Kil-dow, given on page 632 of GLEANINGS, I wish to say that I am never troubled with burr-combs between brood-frames and sections. The top-bar of my brood-frames is $\frac{3}{8}$ of an inch wide by $\frac{3}{8}$ thick, and there are ten of them in a hive 13 inches wide. The sections are raised $\frac{1}{8}$ of an inch from the top-bar, with no honey-board between, and I have never yet found any brood in the sections. I can see no use in compelling bees to squeeze through a perforated honey-board in order to reach the sections.

Pontiac, Mich., Aug. 10, 1889. F. N. HILTON.

The fact you give is valuable—the more so as it confirms the former statements of others. Who else can give corroborating testimony?

AN EVER-BEARING STRAWBERRY.

In our advertising pages will be seen an advertisement headed as above, coming

from one of our friends in Oregon. At the very low price they are offered, you can well afford to try a few and see if they will bear the year round in your localities. I believe there has never been an ever-bearing strawberry that obtained much favor; but even if it does not bear very many berries, many of our strawberry amateurs may like to test it, and possibly keep a few. Here is what our friend says about it:

Our strawberry patch of about one acre is now bearing fine large berries, and we have now on our peddling-wagon, which goes to the Portland market in the morning, over one hundred pounds of strawberries, which retail at two bits a pound. They bear from frost to frost. For our responsibility, see our record.

SETH WINQUIST.

Mount Tabor, Oregon, Aug. 14, 1889.

We also give below a clipping from the Portland *Vindicator*, of August 8:

FINE STRAWBERRIES.

Seth Winquist, of Mount Tabor, called at *The Vindicator* office Saturday morning and left a sample box of delicious strawberries just picked from his garden. He brought in over 100 boxes for the market, and finds ready sale at twenty-five cents per box. It seems incredible that strawberries should be raised and sold in the market at this season of the year; but it is nevertheless true, and they are of a fine quality too. Mr. Winquist informs us that his is a continuous-bearing variety of plant, and has been bearing berries from early in the spring, and will continue until late in the fall. During this unusually dry season the plants in Mr. Winquist's garden do not yield largely, but from a patch of an acre he informs us he gathers some 400 boxes per week. These he has been able to dispose of at twenty-five cents a box—a gross revenue of \$100 per week for one acre of land. Who said there was nothing in raising strawberries in Oregon?

WHITE CLOVER VS. THE BUSH HONEY OF AUSTRALIA.

We extract the following from the Australasian *Bee Journal* of July 1, page 5:

White-clover honey is undoubtedly the best, both for consumption and as a marketable article. In fact, the difference between clover and bush honey is as great as could possibly be imagined. That from clover is of a delicate, smooth, and enticing flavor, which does not pall on the palate, whilst the color is a rich amber, and the granules very fine. On the other hand, most bush honeys have an extremely strong, coarse flavor, leaving a disagreeable after-taste in the palate. There are, however, one or two bush honeys that are not so objectionable, but still even these are a long way inferior to white-clover honey. The greatest difference also exists with regard to color, that of the latter being very superior. The granules of bush honey are usually very coarse, and like the granules of coarse sugar. Perhaps the point most concerning bee-keepers is, that clover honey will always meet with a more ready sale and command a higher price in the market.

POISONOUS INSECTS AND SNAKES OF FLORIDA; INFORMATION WANTED.

In the issue of Aug. 1st, p. 629, our good friend Prof. Cook thanks GLEANINGS for having obtained through it a fine specimen of a copperhead snake, and would like to have other Southern snakes. I plead for this little space in GLEANINGS to recall this notice, and remind our Florida friends who read GLEANINGS, that, when they are sending Prof. Cook snakes, to be sure to send him a black "grampus," the sting of which is said to be very fatal, so we can have it described in GLEANINGS; or if Prof. Cook is acquainted with this insect, he will confer a great favor on us who anticipate going to Florida, if he will give us a description of it. It will be very

interesting to have him tell us about the Southern snakes, and I hope our Southern friends will avail themselves of this opportunity. I saw some snakes in Florida that would break short off when struck with a stick, the piece with the head going on as if not hurt. I was told they would grow out again if not broken too near the middle. I have seen the ground-rattler and the coach-whip. The former is said to be very poisonous; the latter is a very saucy fellow.

JAMES W. WALKER.

Green Spring, West Va., Aug. 18, 1889.

We second your request, friend W. By all means let us know all about these noxious insects and reptiles. I should especially like to have Prof. Cook tell us about the snake that breaks in two when struck with a stick. Does it break in two without the shedding of blood?

CELLAR WINTERING COMPARED WITH OUTDOOR WINTERING; ARE THE LATTER MORE HARDY?

I want to ask a question. Are bees that are wintered in a cellar, or are buried, or kept in any other similar way, more liable to spring dwindling than bees that are wintered in chaff hives? I have kept from 10 to 75 colonies of bees for 15 years. Part of my bees I have wintered by burying them, and a few colonies I keep in chaff hives. I find no difficulty in wintering my bees by burying them. They winter equally well in chaff hives, and even better. The bees that I bury seem to be more liable to dwindle after I remove them from the ground in the spring than the bees in chaff hives. But it should be borne in mind that my chaff hives are not like the ordinary chaff hives in use. I have two styles. The style I like best has the brood-chamber 10 inches square in breadth, and 24 inches in depth, containing 2000 cubic inches inside of the frames; 7 tall narrow frames to a hive only. With this chaff hive I have wintered my bees, not finding on the bottom-board during the whole winter and spring over one-eighth or one-fourth of a gill of dead bees. This is not as many as would apparently naturally die from old age. I found on the ground, outside of the hive, scarcely more than 25, 50, or so dead bees, and no spring dwindling.

WILLISTON CONNOR.

Rensselaerville, Albany Co., N. Y., Aug. 12, 1889.

We think, as a general thing bees are less liable to spring dwindle in chaff hives on summer stands. Beginners, as a rule, will have better success with the outdoor plan; but experts, while they will have no better results, will winter with less stores per colony in the cellar.

In addition to what Ernest says, I wish to add that one great reason why I abandoned wintering in the cellar or wintering in a house with sawdust walls, was because of what you mention. I could winter the bees very well either way; but the trouble was to get them through April and May. In the chaff hives we have no such trouble to speak of, while indoor wintering always troubled us more or less.

FALSEHOODS IN CYCLOPEDIAS; A PLEA FOR THE BRITANNICA.

I have noticed the frequent justly indignant protests in GLEANINGS in regard to the foolish story about the manufacture of artificial comb and honey with paraffine and glucose. But it is not a just charge against the *Encyclopedia Britannica* that the

article referred to is there published. The article on bees in that work was written by John Hunter, secretary of the British Bee-Keepers' Association, and, of course, is free from this sort of foolishness. I have carefully searched through the volumes, and find no reference in any place to this false allegation; the only mention of glucose in this connection being that it is sometimes used as an adulterant of honey, which statement is, unfortunately, beyond doubt, true in some instances. The fact that a cheap American reprint of the genuine encyclopedia contains the libel and slander is an instance of the common error of purchasing or reading cheap books in which cheap popular science, so called, is retailed by cheap writers. Like a mud spot on a bright surface, this slander will remain in perpetuity, no doubt, and as a proof that the adage, "truth will prevail," does not apply to present circumstances, under which truth has no chance against the persistence of a lie once gaining wide circulation. Possibly if the lie were left unnoticed it might remain in oblivion.

I have frequently referred to this matter in the *New York Times* as a foolish libel on bee-keepers, a class of men who are specially free from tricks in trade and such like meanness.

H. STEWART.

Highlands, N. C., Aug. 14, 1889.

We are exceedingly glad to hear that the genuine original *Britannica* does not contain this slanderous falsehood. The whole thing is a sad reflection on the American people in two ways, and every new newspaper statement in regard to the matter is a disgrace to us as a people.

WHEN TO EXTRACT: HONEY RIPENED BY BEES SUPERIOR.

I arranged four hives for extracted honey. During basswood bloom all of them filled the upper stories, but only one was completely capped over, the others not being more than half. Now, were the four ripe enough to be extracted, or only the one that was fully capped over? The honey was all gathered in the same ten days. From reading your works I should say no; but common sense might suggest yes.

ALFRED J. LAMB.

Jefferson, Ia., Aug. 11, 1889.

It is generally better to wait till most of the honey is capped over before extracting. Some bee-keepers extract before and ripen the honey in large open tanks. We never yet tasted artificially ripened honey that we thought was fully equal to that ripened by the bees, although some of the former is very nice. If you wish to get nice thick honey of extra quality, leave the combs of sealed honey on the hives through the summer, and then extract.

CLIPPED QUEENS A FAILURE.

I should like to ask if you ever had any trouble with your clipped queens in failing to issue with the swarm, or getting them killed by the bees. I have lost 30 out of 40 queens this spring. Two-thirds of my queens failed to issue with the swarm. I had three colonies swarm twice in succession without their queen, and so they became demoralized. I have almost concluded to stop clipping my queens.

Brackettville, Tex.

R. HEYMAN.

Years ago we had some trouble by losing queens, but we had no such proportion of loss as you have had. See Question-Box department for this issue.

NOTES AND QUERIES.

We solicit for this department short items and questions of a practical nature; but all QUESTIONS, if accompanied by other matter, must be put upon a SEPARATE slip of paper with name and address.

HONEY-DEW, AGAIN.

Bees are storing honey very fast from honey-dew. It is so plentiful that it is dripping from the tops of the tall timber, down on leaves of the underbrush.
Garfield, Ark., July 27, 1889. G. W. REDDICK.

THE CHAPMAN HONEY-PLANT.

My Chapman honey-plant has just ceased to bloom. It bloomed about one month, and the bees were busy on it from before sunrise till after sunset during the whole time it lasted. I have seen ten bees at a time on a single pod.

T. K. MASSIE.

Concord Church, W. Va., Aug. 17, 1889.

ICE-MAKING AND BEE-KEEPING COMBINED.

I am rushed with the ice-business just now. We are turning out, every 24 hours, from 66,000 to 69,000 pounds of bright clear ice. I have a poor chance to attend to bees and ice, both booming in hot weather.

THOS. D. LEWIS.

Knoxville, Tenn., Aug. 12, 1889.

SHALL WE UNDERTAKE TO REGULATE THE SUPPLY OF POLLEN IN THE HIVES?

There is a question in regard to pollen which I should like to ask. Should colonies be allowed to regulate their own supplies of pollen, or is there any rule to be governed by?

EDWARD HOLLING.

Henrietta, Mich., Aug. 6, 1889.

[In our locality we never have an excess of pollen, therefore nothing need be done in regard to it. In fact, in the early spring we often feed large quantities of rye flour as a substitute for pollen.]

BEE-STINGS NO RELIEF FOR RHEUMATISM.

I have seen so many letters in GLEANINGS about bee-stings being a remedy for rheumatism, I thought I would add my mite. I have suffered with that disease for three years, and have handled bees every season, and this summer I was badly stung while hiving a swarm, and I am sure I never got any relief from the stings.

MRS. JOHN BURR.

Braceville, Ill., July 24, 1889.

[I am exceedingly glad to have you give us this adverse report. To get at the truth of any matter, we want reports of failures as well as of success.]

HONEY STATISTICS FOR MICHIGAN.

I send you the following figures, taken from the "Farm Statistics of Michigan," collected by the supervisors, and just issued: There were, in the spring of 1888, 4080 apiaries, containing 44,326 colonies; 52,199 colonies in the year 1887 produced 579,820 lbs. of comb honey, and 19,814 colonies produced 150,019 lbs. of extracted honey, and 8567 lbs. of wax were produced the same year; 21,847 colonies died in the winter of 1887.

F. N. HILTON.

Pontiac, Mich., Aug. 17, 1889.

SILVERHULL VERSUS THE JAPANESE BUCKWHEAT FOR HONEY.

I have just come in from the buckwheat patch. The bees are on the silverhull in goodly numbers, while the Japanese is almost ready for the sickle, and nary a bee to be found in all the patch. My bees have not done much toward swarming—only

10 swarms from all my stands, and not much honey. It has been wet and too cool for bees to work.

Atwood, Ill., Aug. 13, 1889.

J. W. C. GRAY.

BEEES ATTACKING SOUND FRUIT.

I desire some information. On my farm, all the early peach-trees had fruit which decayed on the branches. The bees then attacked this fruit and afterward went for the sound fruit that matured without decaying. I can't account for it. My bees are doing nicely, and my apiary is ten miles east of this city.

A. O. BRUMMIL.

Washington, D. C., July 18, 1889.

[You will get exactly the information you wish on page 682, Sept. 1, 1888, issue. I then made some careful experiments with bees on early peaches, and, I think, proved conclusively that the bees do not, and, in fact, apparently can not, cut into a peach until it begins to decay.]

CATNIP; WILL IT PAY TO PLANT IT?

White clover, with us, comes about the 25th of May, and lasts until the first of July; and then we have but little honey until buckwheat, which comes about the middle of August. Would it not pay to plant catnip on our farm, for it lasts about three weeks in July?

SHERMAN BORDEN.

Burlington, N. J., July 30, 1889.

[We think we can pretty safely say that it will not pay to cultivate catnip or *any other plant* for honey alone. Many experiments have been tried, from an acre up to several acres; but no experimenter has been sufficiently well satisfied with the result to keep it up. Buckwheat, alsike and peavine clover, are all right; also rape in some localities, as the seed is saved for oil.]

REPORTS ENCOURAGING.

A CONTINUOUS HONEY-FLOW.

The bees have not let up since the apple-trees bloomed in April, and there is a prospect for good picking for the next two months.

JOHN LONG.

Vesta, Ind., Aug. 15, 1889.

BEST SEASON FOR BEES EVER EXPERIENCED.

We are having the finest season for the bees I ever experienced. Basswood and clover were both splendid, and now the bees are booming on buckwheat and fall flowers.

J. C. HAND.

Abbot, Ia., Aug. 12, 1889.

LARGE HIVES; 51 BARRELS, OF 550 LBS., FROM 245 COLONIES.

My crop of white-clover extracted honey is very large, and of the *very finest quality*. I gathered 51 barrels, of 550 lbs. each, from 245 colonies, spring count. So much for large hives and a favorable season.

EMIL J. BAXTER.

Nauvoo, Ill., Aug. 8, 1889.

24,127 LBS. OF HONEY FROM 325 COLONIES, SPRING COUNT, AND INCREASED TO 402.

I received the extractor to-day. I did not get to try it this year, as I finished extracting to-day. I have taken out 24,127 lbs. of honey, and 720 of wax. How is that for 325 colonies, spring count? I increased to 402, with only \$38.00 paid for help.

Rush Point, La., Aug. 10, 1889. WM. J. DAWSON.

250 LBS. OF HONEY IN 15 DAYS, FROM ONE COLONY, AND 400 COLONIES IN ONE MILE SQUARE.

I had one hive of bees this year that gained 250 lbs. in 15 days from July 11th to 25th. I extracted in this time 234 lbs.; average daily, 16 $\frac{2}{3}$ lbs. I have

112 colonies, and there are over 300 more within one mile of my bees, making over 400 in an area of one mile square. All are doing well. F. B. JONES.

Howard, Minn., Aug. 6, 1889.

21,000 LBS. FROM 160, SPRING COUNT.

Our bees did quite well this season, considering the help I had, and condition of the bees in the spring. We had to buy sugar, and feed, so they were not strong. We had 160 colonies in the spring, and now have 250 colonies. We have taken off 21,000 lbs. of honey—1500 lbs. of comb honey, and the rest extracted. Our honey is very nice, all as good as you saw when you were here.

Mrs. W. J. PICKARD.

Richland Center, Wis., Aug. 10, 1889.

\$15 PER COLONY, AND HONEY ALL SOLD AT 20 CTS. PER LB.; "HOOSIERDOM" EXPLAINED.

This has been a great honey year: but as I have not given the bees the care they ought to have had, much has been lost. The home apiary has yielded about \$15.00 per colony, spring count, while those that I left at my old home have done a little better. My honey is nearly all sold at 20 cents per lb. Hugh Vankirk will have about 5000 or 6000 lbs. I understand. Will you please ask Ernest what he meant in Aug. 1 GLEANINGS, p. 643, by "Hoosierdom"? It made me feel bad when I read it, but perhaps he intended us to extract some other meaning than the one given the term here.

L. W. VANKIRK.

Washington, Pa., Aug. 17, 1889.

You have given us a grand report, although Indiana, by the Statistics, reports in general a poor season. In regard to that term "Hoosierdom," we meant no unpleasant reflections upon any good people who live by the sweat of their brow in a literal sense. If you will excuse another coinage, we meant *farmerdom*, or the region occupied by the tillers of the soil, as distinct from those little spots occupied by "town chaps." See?

REPORTS DISCOURAGING.

TWO-THIRDS OF THE USUAL CROP.

We have about two-thirds of our usual crop of light honey, which is very nice. The outlook for fall or dark honey is poor. It still continues very rainy, and is getting somewhat colder.

Jefferson, N. Y., Aug. 9, 1889. LESLIE STEWART.

NOT A POUND OF SURPLUS.

From 100 colonies in good condition, not a pound of surplus honey was secured. Bees got plenty to live on, and we yet live in hopes of getting some for ourselves when the tie-vines bloom. So far as I can learn, the honey crop is a failure in all the surrounding counties.

JNO. H. MULLIN.

Oakland, Tex., Aug. 10, 1889.

THE POOREST SEASON IN FIFTEEN YEARS.

We had excessive swarming from June 12 to Aug. 9. Bees have brought in honey enough to keep up brood-rearing. I have 80 colonies, and not a third of them have honey enough for winter. We shall have to feed unless we have an extraordinary fall. I do not look for that. We had a frost on the night of the 10th of this month that killed all buckwheat on low lands.

L. REED.

Orono, Mich., Aug. 13, 1889.

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 141.—a. Do you regard the virgin-queen traffic as a benefit to bee-keepers, particularly to novices? b. If it is a benefit, what are the benefits? c. Have you found any practical plan to introduce virgin queens four or five days old, so that they can be introduced as quickly and as easily as fertilized queens? If so, please give it in detail.

a, b. No.

S. I. FREEBORN.

I do not. I condemn it in toto.

MRS. L. HARRISON.

a. As a rule, it is not a benefit; c. No.

GEO. GRIMM.

a. No. c. Introduce them on sheets of hatching brood.

P. H. ELWOOD.

a. No; c. I think there is too much uncertainty about it.

H. R. BOARDMAN.

a. No; c. None that will work so as to commend the practice.

DADANT & SON.

a. I have my doubts; b. I give it up; c. No. We are experimenting now it that very line.

A. J. COOK.

I have not been fortunate enough with the introduction of virgin queens to say any thing in favor of the traffic in the article.

C. F. MUTH.

a. I think it may be. b. I think they may be furnished at lower prices than laying queens. c. My experience in that line is very limited.

C. C. MILLER.

a. No. b. No. I have practiced Alley's plan, with a loss of one out of every five. I have practiced no other plan. Any plan is very uncertain.

RAMBLER.

a. No, unless the novice will first learn to introduce them successfully. c. Yes, by first making the colony hopelessly queenless, when they may be introduced directly without caging.

A. E. MANUM.

I don't think the virgin-queen business will be of any benefit to any one except the queen-breeder; c. No. In making our swarms by division, we sometimes have used virgin queens just out of the cells, with good results.

E. FRANCE.

a. No, neither to novices nor to experts. c. Letting them loose at the entrance is as good as any other way. Some seasons I have no difficulty at all, but at other seasons I can hardly have one out of four accepted.

PAUL L. VIALLO.

My answer to the first must be a mere matter of opinion. My opinion is unfavorable to it. I let virgin queens run in the door and take their chances—with perhaps the help of a little smoke. I have never tried aged ones.

E. E. HASTY.

a. No, not at present. Whether or not it can be made practical I will not offer an opinion, but leave it to those who know more about it than I do. b. I do not know. c. No, not as quickly and easily as fertilized queens. Not with the certainty,

JAMES HEDDON.

I do not. With novices especially, I think it is likely to prove unsatisfactory. Any one ought to be able to get at least one good queen, and after

that any one with a little experience in bee-keeping ought to produce virgin queens about as well as any one else; and considering risk of loss, etc., much cheaper. Those who can not are not likely to succeed with virgin queens several days old, purchased from a distance. I have always introduced virgin queens when less than two days old.

J. A. GREEN.

a, b. I have had no experience in that line. c. No; the best way I found was in the Betsinger cage, the same as though they were fertile. I have had a good deal of experience in introducing virgin queens of different ages, but abandoned all except the introduction of very young ones, after noticing the fact that they never took their wedding-flight until the same time had elapsed *after their introduction*, whether they were one hour or five days old at time of introduction. I have often wondered whether any others have had this same experience or not; but I have noticed no mention of it by our writers.

O. O. POPPLETON.

a. If virgins could be safely introduced it would be a great benefit; but with my experience in introducing them, I would look on the trade in them as an unmitigated nuisance. The greatest annoyance I ever had was thirteen years since, in adopting your (?) lamp-nursery, and introducing virgin queens. I could hatch them by the hundred; but nine out of ten were lost in introducing. b. I have not succeeded in any plan of safely introducing virgins.

P. S.—I do not insist that Providence warned us against the use of such a device as above named, but the great lamp used in *that nursery* afterward burst, and set fire to the house of J. F. McIntyre, my son-in-law, and narrowly escaped burning it with the family.

R. WILKIN.

a. How is a novice ever to become a bee-keeper, except as he goes to work as a bee-keeper should? It is in this way that he becomes a practical bee-keeper. So I answer the question, *yes*. Every virgin queen a person handles makes him just so much the wiser along this line of our pursuit; and until a person can successfully handle virgin queens, he does not arrive at full "manhood" in our pursuit. b. Through a direct crossing of the best stock which you have, with the best stock the best apiarist in the world has succeeded in producing. A direct cross of the best specimens of a given race always gives vigor and strength not obtained in any other way. c. No, not as easily as a fertile queen can be introduced; but by the plans given in my book, I succeed nearly every time; but these plans are too long for this department.

G. M. DOOLITTLE.

a, b. I don't *know* any thing about it; but it seems to me that "novices" had better purchase only fertilized queens, except as an experiment. c. I have introduced virgin queens several days old, but not as *quickly* as fertilized ones. My method was to fix a stick in such shape that one or both ends would be of the size and shape of the inside of a fair-sized queen-cell. Wet the ends and dip them in melted beeswax two or three times, just as is done to sheet wax for foundation. Place in cool water a moment, and the wax can be readily removed from the stick. Make as many as may be needed for the season. Before using, prick three or four holes, with a good-sized pin, through the closed end of this wax cell, just about where the

queen would naturally gnaw out of a natural cell. Put the queen in head first, and carefully squeeze the open end together, and fasten to the top-bar of a frame that is in the center of the cluster of bees in the brood-nest. The holes should be large enough so the queen can get her tongue through, to be fed by the bees. This is not original with me. I read it somewhere years ago.

DR. A. B. MASON.

Our friends may perhaps remember that I was one of the first to recommend introducing virgin queens—that is, when first hatched by means of the lamp nursery; but I never succeeded in any satisfactory way, unless the queens were introduced when only a few hours old. As an illustration: One evening during swarming time a young bee-keeper drove up to our yard with some queen-cages in long strips; in fact, they looked a good deal like ten-foot poles, only they were about half as long. Every cage contained a nice-looking queen; but I thought at the time they looked rather white and fresh. He said he had bought an A B C book; but as he lived only a few miles away, he raised the queens expressly for us. We purchased the lot, and commenced introducing. In two or three weeks we had introduced most of the lot; and some later a few were laying. We were, however, satisfied that he had brought us virgin queens. We hunted him up, and he admitted it. He said he hadn't got the hang of the thing, and he supposed that getting the queens hatched was all there was to it. Now, I am sure that neither Ernest nor myself would think of accepting such a lot of queens again as a *gift*. I do not mean that there was any thing the matter with the queens. They were strong, lively, and active; but they had not been fertilized.

QUESTION 142.—*By what method do you introduce fertile queens? Explain the plan in detail, if not already generally known.*

See 141.

PAUL L. VIALLO.

The plans as given in my book.

A. J. COOK.

Cage them a couple of days before letting them loose.

P. H. ELWOOD.

My method is generally known and practiced by others, which is, by the use of a surface-cage.

A. E. MANUM.

By caging the queen on the combs with a wire-cloth cap that crowds into the comb after removing the old queen.

H. R. BOARDMAN.

By various methods, depending upon the time and the condition of the swarm. A fertile queen is almost always safe when running over the combs.

MRS. L. HARRISON.

I have nothing new to offer. I have practiced most of the methods given in the books. Most of them will prove successful during the swarming season, with a good flow of honey.

S. J. FREEBORN.

Generally I let her go at once among the bees on a comb, lifted from the hive where I know they have been without a queen a few hours or days. If they treat her well I set her with the bees back in the hive; if the bees seem to doubt her right among them, I put her in a Peet or other cage, arranged so she will get out within a day or two. More valu-

able queens I introduce to a few young bees only on hatching brood, and build up with hatching brood.

R. WILKIN.

I use more than half a dozen methods—first one and then another, according to the circumstances. To explain all these methods in detail would be tedious; besides, they are all explained in back numbers of journals and bee-books.

JAMES HEDDON.

a My plan is the good old way that never fails. Take out all escort bees, and cage the queen three days. I have tried various other plans recommended, but have had indifferent success. I wish to try, this season, Cheshire's plan of running them in in the evening.

RAMBLER.

When surplus queens are raised in nuclei in the yard, I frequently use the "Simmins direct-introduction" method. Ordinarily I decidedly prefer the use of the old-fashioned Betsinger cage. Both of these ways have been frequently described in all the bee periodicals.

O. O. POPPLETON.

I put the queen in a small wire cage and suspend it between two combs, near the brood, but so that she can reach honey through the meshes. I leave her caged from 24 hours, or some less, to 3 or 4 days, according to circumstances. One can tell very readily from the action of the bees whether it is safe to release her, and that is my guide.

GEO. GRIMM.

By several plans, all of which have appeared in GLEANINGS. For a very choice queen I always use the "caged bees" plan, as I have given in back numbers of this journal, and I have never known a failure, and I have had but one report of such a failure from the many who have used the plan. I consider it *absolutely safe* in the hands of the novice or the expert.

G. M. DOOLITTLE.

Kill the old queen just before introducing the new one; then cage the new one in the hive for 48 hours, and release her by putting a piece of comb honey in place of the stopper of the cage. With an already queenless colony, we do not release the queen till we are sure there are no queen-cells, and that there have not been any for several days past; i. e., till we are sure they are otherwise hopelessly queenless.

DADANT & SON.

I generally use the Peet shipping and introducing cage. Sometimes I make a cage out of a piece of wire cloth 3 or 4 inches square. Cut a piece about half an inch square from each corner, and bend the four edges to a right angle with the rest of it, and as deep as the corners have been cut out. Shake the bees from a comb and place the queen and a few of her bees on the comb when there is honey, and set this cage over them and press the edges into the comb. This is not a new way, but I've never failed with it, neither have I with the Peet cage.

A. B. MASON.

My methods are mostly those recommended in GLEANINGS and A B C, and thus so familiar as not to require detail. For introducing a valuable queen, in times when bees are cross and no honey coming in, cage a whole comb of hatching brood; put the queen on it, and hang it in the center of the colony. Another and perhaps better way is to shake the bees all into a box, Doolittle-nucleus style, and give them the queen after they have been *worrying* for an hour or two. On giving them combs, give different combs, as far as brood will al-

low, and a different hive—but, of course, on the old location. Make them feel like strangers in a strange land, and they are not likely to attempt the overthrow of the dynasty.

E. E. HASTY.

I make an introducing-cage by taking a piece of wire cloth about five inches square, and bending the edges up at a distance of about seven meshes from the edge. Take a piece of tin of the same size; bend up two adjoining edges, and cut a $\frac{3}{8}$ -inch square out of the opposite corner. Lay the cage on the tin slide, and put in the queen, and, if necessary, a few young bees. Select a level spot on a brood-comb where there is some honey, and, if possible, hatching brood. Lay the cage on the comb, tin down; withdraw the tin slide, and press the cage into the comb just enough to hold it firmly. Leave the queen caged 48 hours, then remove the cage, unless the bees seem hostile.

J. A. GREEN.

We introduced several old fertile queens last year by putting them into the Peet cage and fastening the cage to the comb, with the tin slide drawn out. I had but one failure in 20; but I lost a \$4.00 Carniolan queen last week. I had a colony with queens in cells almost ready to hatch. She arrived at 6 P. M. We looked over the combs, and supposed we had taken out all of the queen-cells. We put the Carniolan in a Peet cage, and did not take the tin slide out. We put the cage in the hive, left it 36 hours, and then removed the tin slide and fastened the cage to a comb. About 4 days after, I looked the combs over. The queen was out of the cage. I found one queen-cell hatched, and my Carniolan queen dead in front of the hive—just because there was *one cell left*.

E. FRANCE.

The best way to introduce queens, and the safest of all I have tried or seen described, is the cage system. Cage the queen of the hive for a day or a night, or for three or four hours only, so that the bees are aware of their queen being in the cage, which, of course, is suspended (or sticking) between two brood-combs. Next, take out the cage, put away with the old queen, put the new queen in her place, close the cage with a piece of comb honey instead of the cork, and place it between the combs again in the old spot. The cage, having the scent of their old queen, and the bees knowing her to be in that cage, are cleverly fooled. They liberate the queen and receive her every time. Exceptions to the contrary are very rare. No bees should be in the cage with the queen.

C. F. MUTH.

Suppose I want to introduce a queen from a nucleus to a full colony. I take from the nucleus a frame of brood on which is the queen, with its adhering bees, and put it, without any preparation, in the full colony. The plan is so little trouble that I can afford an occasional loss by it. If the colony is queenless, and has started queen-cells, I often lift out a frame and put the queen on it upon the brood, right among the bees, without any formality; but the first plan is safer. To introduce an imported queen I put frames of just hatching brood in a hive with the queen and no workers, except those attending the queen; close the entrance and put this hive over a strong colony with a double layer of wire cloth between, so there can be no communication between the bees of the two hives; but the heat can rise from below. In four or five days, open the entrance so the young bees can fly.

C. C. MILLER.

Just at present, Ernest and myself do not quite agree about introducing queens. After the years of experience we have had in sending queens out, I do not feel satisfied that any thing else will succeed any better, even if as well, as the Peet cage, as we now have it. New inventions will come up, as they have been coming up, year after year; but sooner or later the decision is, they are no better. Then why should we make a change, and multiply, and confuse not only the rising generation but many of the veterans also?

MYSELF AND MY NEIGHBORS.

Be not overcome of evil, but overcome evil with good.—ROM. 12:21.

THIS whole matter of "doing good" to those that *hate* you has been so often repeated, and so much talked about, that these beautiful texts fall upon our ears almost without notice; and yet almost every one of us, when we get into trouble with our neighbors, forgets to make the application. Last evening our minister made the remark, that, when Melancthon was converted, he felt sure he could make the matter so plain that the world would *have* to see it; and he had faith enough to believe that the world would be converted. To his great sorrow, however, he soon found that "old Adam" was more than a match for "young Melancthon." I remember very distinctly when I had something of the same feeling. Our older readers will perhaps remember, too, the energy and vehemence with which I started out to explain and talk about the Bible truths here in these pages. For a good while, the principal point on which I exhorted was *our homes*. Further along it seemed to me as if God called me to consider next *our neighbors*; and here we are, dear friends, this bright Monday morning, once more considering this matter of our neighbors. Some of you may say, "Why, our neighbors are all right as they are. Our relations to them are all they need to be. What is the use of having any more talk on this hackneyed subject of 'our neighbors'?"

Well, sometimes I am tempted to think there is *not* much use. Some time after my conversion, in thinking the matter over I felt sure that, if I could have a good long talk with a brother of mine, who was then away, I could surely present the matter to him in such a way that he would at once embrace Christianity. He and I had discussed different matters from childhood, and a good many times I had been converted to his way of thinking, while at other times he had been brought over to my way. It seemed as plain as the multiplication table to me, that, if I could have his undivided attention, say for half an hour, he must assent to the truths and the claims of Bible teaching. He came home, and we took a walk together out in the country. Some way it is always natural for me to talk best when I am out in the open air riding or walking. Well, he gave me his attention, and I went over the whole ground. He as-

sented to many of my propositions, as I knew he must assent; but no such direct change took place in him as I hoped and expected there would. He was not ready or willing to let the world, and what it had to offer, go, and accept in its stead Jesus Christ. I have had the same experience so many times since, that I have got over being disappointed or discouraged. I learned long ago to sow the seed after my own fashion, as best I could, and leave the result with Him who rules over all; and as a general thing I feel happy when I have done my work, whether immediate results follow or not. Now to business.

In my recent travels I have had so many pleasant experiences when stopped in some unexpected place that I have rather learned to enjoy it. Whenever I am told that the time has been changed, or miss connection, my first thought is, "Well, what has the Lord for me to do here?" and then I set about finding out. At one place in Wisconsin, in reply to my oft-repeated inquiry, the station agent said, "Oh, yes! there are quite a lot of bee-men here; if you walk down the track three-fourths of a mile you will see Mr. —, who has a great snarl of hives; and up on the hill, in another direction, is a man who has lately commenced, and he is quite enthusiastic in the business, and I have no doubt he would be glad to see you. Off over the hill is another one," and so on. But as I had only three hours to wait, and my supper was to come out of the three hours besides, I concluded that he had given me directions enough. Three-fourths of a mile down the track I saw thirty or forty hives arranged under an old-fashioned shed. They were on the north side of a very pretty little garden. Every thing was neat and tidy, but they evidently were not quite up to the times in every thing. I talked a little while with the old gentleman who owned the bees, but he did not seem to know much about the bee-journals nor about their editors. He said his son was out harvesting, but added that he would be home soon, and he would doubtless be very glad to see me. So I walked back to the depot; but just as I had reached there, however, a young man (the son) drove up briskly, and expressed great pleasure in meeting A. I. Root. He said he was working hard to get money enough to complete his education, and, of course, he and I were friends at once. I proposed making a brief call on one of his neighbors; but he seemed to be a little bit backward. There had been differences between them, mainly in running each other on the price of honey. I urged him, however, to go over with me, suggesting that, if they got better acquainted, they might possibly agree on some price so as not to cut each other. After a little urging he replied, "Why, of course I will go;" and we three had quite a pleasant little chat together. The last-named friend had his hives neatly painted, and set each one under a forest-tree, where a partial clearing had been made in the edge of the town. It was a very pretty place, and the hives were very neatly cared for; although I found in a few moments that some of

them were crammed full of honey, and the bees were hanging idly on the outside, it being in the height of basswood bloom. These were both fine, intelligent young men. They had it in their power to assist each other greatly, and yet they had been on bad terms, just on account of the value of a few cents. At another place I met the same state of affairs. One man said to me:

"Mr. Root, we used to have a bee-convention here, and I loaned books to my neighbors, looked over their hives, and showed them how. I let them take a hive for a model, and things of that sort. But how do you think it turned out?"

I replied that I hoped it turned out pleasant and profitable all round.

"Not a bit of it. Just as soon as they had got a pound of honey to sell, they rushed into town with it, found out what I had been getting right along for mine, and then offered to sell it to the groceryman for two cents less, if he would take their honey instead of mine. I am clear disgusted with this work."

The above sums up one of the most grievous troubles among neighbors, especially where both keep bees. They get along very friendly and nicely until it comes to the matter of disposing of the crop. Honey can not be rushed off as many other things are, and these beginners are almost always in need of a little ready cash. Forgetting the accommodation they have had, they too often, in their sudden eagerness to turn their work into cash, do something like what has just been described. I should not wonder if quite a lot of my readers say, as their eyes take in this thought, "There, that is just my experience exactly. But I have got done with teaching people how to keep bees, just for the fun of it, and then having them undersell me, just as soon as they get a few pounds of honey."

Please do not be in haste, dear brother, to come to such a decision. I know these things are bad, but it only shows the selfishness of humanity. It is not our neighbors alone, but it is ourselves; and this same in-born sin exists in our own families and in our own hearts. The remedy is in the beautiful little text at the head of my talk to-day: "Be not overcome of evil, but overcome evil with good." What a grand thought it is! and, oh how much better than to say you will not have any thing more to do with them, as we often do! Of course, I recommend Christianity and a Christian spirit when these things are told me; but too often the reply is, "Mr. Root, the church-members do not do a bit better. The very neighbor I was telling you of belongs to the — church." Some go still further and say, "Why, even the minister did so and so."

One afternoon I was having a very pleasant chat with a particular friend of mine. He and his wife, with their children, were sitting out in the shade of the apple-trees, close by the apiary. While we were talking, a man came up and wanted just one planed board, such as friend — has stacked up ready to make hives. He is a supply-dealer, and has a small engine and buzz-saw. He keeps the regular hives in stock;

but as orders frequently come for something different, he keeps a limited quantity of nice boards right close to the saw-table, ready to be cut up as wanted, at a moment's notice. Well, this neighbor wanted just one of these boards. My friend, in a gentlemanly way, explained that he would very much rather not let them go. After he had gone, I suggested:

"Why, friend —, can't you get enough for those boards to afford you a good profit, and at the same time accommodate your neighbor? I noticed that you did not say any thing about the price, neither did he. Now, I would have said, 'Neighbor —, I do not like to spare these boards; but if you need one bad enough to pay me so and so for it, I will let you have one, and replace it soon.'" He glanced at his wife, and just then it occurred to me that perhaps the neighbor might be slow pay, or something of that sort. It was as I surmised. Instead of paying for the board, he would have wanted it charged, and that would have been the last of it. A little more questioning brought out the fact that this neighbor was their minister.

"Why, friend —, you do not mean to say that your minister does not pay his debts, do you?" He assented, and then said that the same individual owed them a milk-bill that had been standing so long he had no hope of getting it at all. At this I rose to my feet. The wife assured me that it was all so. I insisted that there must be some extenuating circumstances, or something I did not know about. Now, my bee-keeping friend is a pretty good man, even if he is not a member of any church. He replied in a manly way:

"Yes, Mr. Root, there is an extenuating circumstance. This man receives such a miserable pittance for a salary, that he can not very well be honest, even if he wanted to ever so much. His congregation is small, there are no wealthy members, and I really do not see how the poor fellow does get along as well as he does. Now, I do not mind the amount of the milk-bill, even if it is hard to furnish milk regularly, and not get any pay for it. If he or his people had asked me outright to donate the amount I would have given it willingly. But that is not the point. I do not like the way of promising to pay, and then not paying."

Now, friends, we are getting to the bottom of the matter, I believe. The real truth of this trouble, and a good many other troubles of this sort, is that Christ's cause is at a very low ebb in these localities. The churches are small, and even those who do attend and try to support the minister are weak in faith, and, as a consequence, weak in finance. They scrimp their minister, and he scrimps by not paying his honest debts. The consequence is, he can not possibly preach a real gospel sermon. His Christianity is pinched and starved out of him. Who is to blame? It is just like living in a community where boys steal melons and honey. Instead of laying the blame all on the boys, it lies on the community in general. They lack the spirit of the little text. In one of our prominent agricultural papers a few

weeks ago a well-known writer spoke of watching his berry-patch on Sunday. It took so much of his time that he could not go to church; and in spite of his efforts, the boys and even men came there and carried off his berries in tin pails. Finally he caught a little fellow and kicked him with his great boot. What should he do? Why, bless your heart, dear friend, I should do exactly as the Bible teaches. "Be not overcome of evil, but overcome evil with good." I do not want to boast, dear friends—far be it from me to do so; but I do want to say that our honey has never been stolen, and our melons and berries have never been stolen—that is, to amount to anything. Some of our small boys did at one time last June get into a habit of cramming their pockets with great green Jessie strawberries; but the saddest part of it to me is, as I look back, that even Uncle Amos lost his equilibrium, and scolded one boy, and made him take the great berries out of his pockets. The boy had been hoeing, and was tired and thirsty; and the berries with their pink cheeks looked so tempting to him, who could blame him? Yes, I scolded; but I afterward felt bad about it, and he felt bad too; and I talked the matter over with him pleasantly and good-naturedly. I told him that, if all my boys did that way, there would not be any berries to get ripe.

He assented, and promised not to touch another berry unless I gave them to him, but to go and buy them at 5 cts. a pint boxful, the way everybody else did; then he would not have to stick them in his pockets, and feel guilty while he was eating them. I never knew him to touch a berry afterward. He and I are real good friends. He helps me and I help him. Now about the ministers:

There are a great many ministers who read GLEANINGS. God bless the dear hard-working brothers! How I do love to get hold of their hands and talk over these matters! They know me pretty well, most of them; and even if I do touch on something that reflects on them just a little, I think I know beforehand that they say in their hearts, "Go on, brother Root; don't spare us." I say this because I do firmly believe that they are hungering and thirsting after righteousness and godliness, and that they will rejoice at any thing that helps righteousness to prevail. During my travels I urged a good friend of mine very hard indeed to go to church one Sunday evening. He said he was pretty certain that it would not do him any good; but as I was his guest, he of course gave way. Well, I was very anxious, as a matter of course, that the sermon should be spiritual and inspiring. I felt anxious for him during all that discourse, and I found out afterward that he felt anxious for me in the same way—that is, he wanted the minister to do well, so as to give me a good opinion of their neighborhood and people. I am sorry to be obliged to say that the sermon did not have very much heart in it. There was a great deal of Scripture quoted, but it did not have any particular application that I could see. The minister pounded the desk, let his voice sink

to a whisper, and then spoke in thunder-tones. It was a kind of old-fashioned preaching that some of you may have heard years ago. On the way home my friend explained that the regular pastor was absent, and that this man was called in, rather than have the audience go back without any sermon. He went on:

"Of course, I need not tell you there was no particular point in any of his remarks; and I think I will just mention that one reason why I did not find very much good in it was because that man has been owing me for three or four years for honey."

"Oh! but, friend — he will pay it, even yet. Perhaps he has had bad luck."

"Yes, Mr. Root, he *has* had bad luck, and always *will* have; and he has probably got discouraged because he is owing more than he can ever pay, possibly, and now I am afraid he buys every thing he can get trusted for, without any expectation of paying for it. The sad part of it is, that our people will, knowing these things, occasionally ask him to preach."

Well, my friend who sold the milk went on, and we were discussing ministers' salaries. He maintained that, to get a good honest minister, as well as to get a good honest man for any purpose, you must pay him a decent salary. There are, in the market, doctors, schoolteachers, and even ministers, of all grades. If you take up with a low-priced man you will have to take the consequence. It is a sad state of affairs, dear friends, I know; but is there not some truth in it? Suppose your pulpit is vacant, and you are looking about for some one to fill it. You will have applications from a good many directions; and when you have some one in view it is natural to make inquiries. Well, suppose the inquiries result in something like this:

"Mr. So and so is an excellent man in many respects. He is a fine orator; quotes Scripture accurately, fluently; is a good leader; is pleasant and courteous, etc." But suppose the letter should end up by saying, "He has one grievous fault; he makes purchases unwisely, and is always behindhand and in debt. You can, however, get him at a *very low price*."

Now, I do not know that such a state of affairs exists; in fact, the bare thought of it gives me pain that any of God's appointed servants should be so inconsistent, or blind to the sacredness of their calling, as to utterly spoil and ruin all their chance of leading souls to Christ. I proposed to my friend that he go right over to his neighbor's, and have a plain talk with him, in regard to the matter; but he thought it was out of his line.

Now, I do not remember that I ever knew personally a minister who did not pay his debts. I have, however, known several church-members who were very *slow*—yes, some who were quite active Christian workers. Some little time ago one of these brothers was under discussion, and one person remarked, "He has owed me something toward twenty dollars for three or four years, and I have not any idea that he ever expects to pay it." Of course, I remonstrated

ed, but he insisted that it was true. In a few days I saw this brother, and told him plainly that I feared his being so dilatory was a reproach on the cause of Christ. Of course, he had a number of extenuating circumstances to tell me. There had been much sickness in his family, and he did not know that the man he owed felt as he did about it. He, however, admitted that it was a shame, and that the account *ought not* to have been allowed to run as it had been. As he had not the money to settle it just then, I proposed loaning it to him, telling him he could pay me when he found it convenient. He seemed deeply touched. The account was promptly settled, and in a few months he paid me, and interest also, for the use of the money. Now, friends, this is one of the ways of overcoming evil with good. I hardly need tell you that I felt happy over that investment. Why, I do not know when fifteen or twenty dollars has afforded me so much pleasure and real satisfaction. Before this we were not on particularly friendly terms either; but since then it is always a pleasure to me to meet him, and I am sure that he feels exceedingly kind and friendly toward me. If I knew a minister who did not pay his little debts, I think I should go to him in just that way. If his salary is small, and *you can afford it*, just donate him right out enough to set him free from his little embarrassment; and if you do not find that you have been laying up treasures in heaven by so doing, I shall be disappointed.

Now, just a closing word to the bee-friends, especially those who have had trouble with their neighbors in the ways I have mentioned. Do not try to cure these troubles by letting them alone. Do not repeat to your other neighbors and friends the story of their delinquencies and faults. Go to them in a friendly way. If you have the spirit of the little text in your heart they will not be offended. You need not fear that they will think it none of your business; but if you *should* have a neighbor so hardened as that, do not be troubled. It does not hurt a Christian to be snubbed, when he is trying to do his duty. Our pastor, who has gone to China, once said, "A real true follower of Christ can not be snubbed or insulted;" that is, an insult can not be given where none will be taken. The true Christian forgives unkind words, almost before they are uttered, and *makes haste* to overcome evil with good. Why, God bless you, my friend, you do not need to be put out, even if some thoughtless neighbor *has* sold his honey lower than he need to, and thereby spoiled the established price. Go and talk with him about it; let him see that your heart is large enough, and that you are magnanimous enough to be friendly and kind, even if he had done *ten times as much* to injure you. You can not *afford* to be spiteful and unfriendly because of such troubles. One of our bee-men raises blackberries after the honey season is over. I think I will not tell his name. Well, he has a very large patch, and carries them to the surrounding towns. They were going off nicely at 12 cents, and the proba-

bility was that there would be no need of selling cheaper. Finally some neighbor who had a small patch began selling his for 10 cents. Our bee-keeping friend remonstrated, and finally offered to pay him cash down, right at his home, 10 cents for all he raised. I should have supposed that this, of course, would have settled the matter pleasantly. It seems it did not, however. The ten-cent neighbor refused to sell them *in that way*, but was just contrary enough to insist that it was his *privilege* to carry them around and *retail* them out at 10 cents, if he wished to. A case of the same kind occurred in friend Freeborn's neighborhood, with honey. Perhaps some of you say, "Now, Bro. Root, what are you going to do with men who are stubborn, contrary, and ugly, as in the above case?" My reply is, that I am still going to overcome evil with good.

If you will turn to the 12th chapter of Romans, where our text comes from, and look at the verse just above the text, you will find this:

If thine enemy hunger, feed him; if he thirst, give him drink: for in so doing thou shalt heap coals of fire on his head.

These friends have to be conquered by heaping coals of fire on their heads. Very much depends on how you do it. It requires skill and tact, and, above all, a kindly spirit of love for your neighbor, in your heart. Few men like to be "bossed" around, or, if you choose, most of us dislike to have our liberty of action interfered with. Satan gets his finger in the pie, and sometimes it takes quite a little effort and quite a little time to rout him entirely. But it can be done. Do not, I pray you, be weary in well-doing. Do not get discouraged, and say, "It will not work with this man." Make up your mind that you are going to say, as did Gen. Grant, "We will fight it out on *this line*, even if it takes all summer." Grant was fighting an *enemy*, and *you*, my friend, are fighting an enemy; but the enemy is *not* your misguided neighbor. It is *Satan*. Why, you can not enjoy life at all as God intended you should enjoy it, without being at *peace* and on *friendly terms* with your neighbors. Quite a few times, when I have asked one bee-keeper to drop his work a little while and go with me to see some bee-keeping neighbor, he would say, "Why, the truth is, Mr. Root, we do not have much to do with each other nowadays." I believe, however, that I have always succeeded in getting them to drop both work and hostilities, and go with me; and it has happened more than once or twice, that explanations and misunderstandings were straightened up right in my presence. Now, do not be cross, dear brother, even if people are greedy and selfish. It is nothing at all strange; in fact, it is nothing strange if you find me at times greedy and selfish. If you do, however, I want you just to grab right hold of me, and give me a good shaking. If you can not do that, say in your letter, "See here, old friend, why don't you practice a little better what you preach?" I shall not be mad, I assure you. May be I will straighten up. Now, then, whenever you meet evil in any form, especially among

your own neighbors, please believe your old friend when he tells you not to think of overcoming evil with evil; but please bear in mind that it is a *thousand times better* in every way, shape, and manner, to "overcome evil with good."

NOTES OF TRAVEL.

A. I. ROOT AMONG THE BEE-MEN OF WISCONSIN.

PERHAPS I was in a happy frame of mind that afternoon when I came into the town of Boscobel. I had just been exhorting my friend the stage-driver to have more faith in humanity and in Christianity; and I do not know but that this made me feel happy. Besides, Boscobel is a very pretty place. Before we fairly got inside of the corporation we saw a very pretty group of bee-hives; but as my time was limited I did not stop. I had in my memorandum the name of Edwin Pike, and we soon found that he was near the center of the town. When we were pretty near where we were directed, I told my companion that he might drop me before the gate of a very pretty little residence, with hives orderly arranged, and painted in tasty colors. Right near was also a very pretty garden, and some thrifty young strawberries just taking root. I took it for granted that this was friend Pike's; but I soon found out that it belonged to Benjamin Rice. Friend Rice was at work with a helper, among the bees. They stopped extracting, however, when they found that A. I. Root was their visitor. Friend Pike's place was only the second house from where we were talking. I suggested that we go over and find him, as I had only about an hour before train-time. Now, I felt pretty sure, when I looked over friend Rice's apiary, that I should not find another so neat and so pretty, in the whole town of Boscobel; but friend Pike was not one whit behind. Why, it is really funny to see two such very nice men with such wonderfully nice homes so close together. I wonder if they ever have any trouble about cutting under prices in the sale of honey. I did not have much chance to get acquainted with their wives and children; but I felt glad to find myself a welcome visitor among such really intelligent, progressive people. Well, I soon learned there was a Mr. Dexter, not half a mile away, who kept a great lot of bees. Two or three hundred, if I recollect right, were in one locality; and when I told them how soon I must leave, they managed to enable me to have a few minutes' call on friend Dexter. Friend D., too, had been extracting; in fact, he was pretty well tired out when I came there. When I went to look at his apiary I expressed surprise that so many bees would do well so close together.

"Why, Mr. Root," said my new friend, "it would not make any difference if I had 500 instead of 200 right here in this yard."

I suggested that perhaps that was an extra good season.

"No, it is not," said he. "We have sea-

sons like this right along—that is, when the basswood is in bloom."

There were such exceedingly great clusters of bees hanging to the front of his hives that I asked him if he was sure they all had room inside. He replied:

"Why, I am perfectly sure they have *not* all the room inside. See here. Do you see along that row of hives? Well, you notice that at one particular point the great clusters on the outside suddenly cease, and the hives are comparatively clean."

I nodded.

"Well," resumed he, "we got just so far in that row with extracting, and every hive was crammed full as fast as we came to it."

I suggested that, if they were *my* bees, I should keep on extracting until dark, any way; but he shook his head, and said that he had already done hard work enough for one day. His friends told me afterward that he was one of the sort of men who do not worry themselves greatly, no matter how much honey is going to waste; and very likely there are extremes both ways in this matter; but I think there are quite a few among our readers who would not only extract till dark, but possibly till midnight or later, rather than let the bees hang by the bushel on the outside of the hives for want of room. It was about train time. As I started for the buggy I told friend D. that, if it would not make too much trouble, I should like to shake hands with the women-folks, even if I did no more. Did it ever occur to you, dear reader, that there are lots of happy and pleasant homes in this wide world of ours? It is true, there are some contrary and difficult people to get along with; but I tell you there are ever and ever so many good people also; yes, and even among the bad ones there is a good side to almost everybody. I guess I was in a mood that day of catching hold of the good, and not seeing the other, if there was any; but I shall always remember Boscobel as a very nice place with many nice people in it. I told you, in Our Homes for last issue, about my visit that same evening with friend Snyder. With your permission we will just skip along until I step from the buggy and say good-by to Mr. Fiddler and his wife. This was just before the residence of Mr. Pickard, at Richland Center. Mr. P. had just got on his mowing-machine to cut some grass. He saw me come down the lane with my Kodak strapped across my shoulder; but he remarked to his hired man that he thought I must be some book-agent, and so he drove to the other end of the lot just as fast as he could, indicating that he was very busy. I wonder if there are any book-agents among my readers. If so, this gives you something of an idea of how people, many of them, feel when they see you coming. Well, I did not bother friend P. just then. The young ladies at the house told me their mother was in the apiary; but before I got there my attention was called in another direction by a babbling brook that came forth from a beautiful little spring that just poured out of the ground on one side of the spring-house. A little way off from the spring I found a very bright,

intelligent lady taking entire charge of something like 200 colonies. With the help of an assistant they had been extracting; but a swarm had just come out, and while we were talking another came. The day was intensely warm, and I could not but admire the energy that this lady showed in going right out in the sun and giving the bees the needed care which came all in a heap, as it were, during the height of the basswood yield. Her attention was first directed to bees when friend Freeborn, a year or two before, planted an out-apiary in her vicinity. She became interested, and finally purchased the apiary complete. Her first venture was in paying \$600 for 160 colonies of bees, and this while she knew next to nothing about bees. I should have said at once that it could result in nothing but failure. Not so, however. If I remember correctly the bees were all paid for with the first crop of honey, and now she is a well-to-do bee-keeper. "Who does the housework?" do you ask? Why, a couple of nice bright daughters manage it nicely, and it probably does them as much good, as it does the mother to manage the bees. Think of it, ye of the fair sex, who are thinking the heat is too great to do more than fan yourselves, sit on the sofa, and wait till it gets cooler.

Before I reached friend Pickard's my attention was taken up with a queer-shaped bluff in the neighborhood of the apiary. The ground rises so abruptly on all sides that it takes a man or woman of pretty good wind to climb it on a hot day; and when you arrive at the summit you are confronted with a ledge of rocks rising perhaps fifty feet higher than the summit of the hill. By a sort of winding stair, of nature's own make, filled out in one place with a crotched tree, you are enabled to climb to the summit. I tried taking this bluff with the Kodak. It was a pretty large subject for so small an instrument, and the view was hardly worth reproducing. On the way down the hill I rather forgot the warm weather and the perspiration my climbing had put me in, at the sight of a blooded Jersey bovine belonging to friend Pickard. He devotes his attention to fine cattle, while his wife tends to the bees. We tried the Kodak on his majesty—that is, when we could get him to stop bellowing and pawing long enough to get his picture; but for some reason (probably the operator's inexperience) we did not get a picture fine enough to reproduce. I should have enjoyed myself greatly had it been possible for me to stay a day or two; but my leave of absence was coming so near to a close that I fear it pained my good friends by declining to stay to dinner; and a little later on, friend P. and myself were speeding behind a couple of blooded ponies, on the way to friend Freeborn's. You will remember that it was to call on this latter friend that my visit was mainly undertaken. More beautiful springs enlivened the way, as we passed through the basswood timber of Richland County. But I think I shall have to tell you in our next of my visit to friend Freeborn's.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

ENLARGEMENT AND MULTIPLICATION IN OUR DOMESTIC INDUSTRIES.

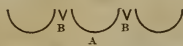
THE question has often been asked, "What may a single colony do in the way of increase in a single favorable season?" I do not believe that any of us yet know the possibilities, even by natural swarming. In poultry-raising, how many chickens may one hen become the mother of in a single year, or say two years? Before you answer, perhaps you had better think about it a little. Again, how shall we manage to get the largest number of colonies that will winter over, or, in the other case, the largest number of good strong healthy chicks? Just at present I am having a good deal of enjoyment in seeing what four strawberry-plants may do in one season. They are in the middle of one of our highly fertilized plant-beds. The ground is nearly half manure, and it has had considerable bone dust worked into it besides. The soil is nearly two feet deep. Whenever I want to enjoy myself I just go and take a look at those strawberry-plants. I especially enjoy the beauty of the foliage when the dew is on the leaves. Well, how shall we make a single strawberry-plant do its utmost? I did think at one time that removing strong plants by means of our transplanting-tubes would be a gain; but now I am inclined to think you would do as well, or better, as follows: Set your one strawberry-plant in the middle of a bed of fine rich soil, say a plot of 20 feet square, and may be more. As soon as a runner makes its appearance, encourage it to grow in a straight line until the new plant appears; then lay the runner in a shallow trench, may be half an inch deep. Push the fine dirt over all except the little plant at the tip end of the runner. Divide the runners all around the plant in the shape of spokes to a wheel; but make each one reach out just as far from the center of the plant as possible; that is, make them come out into new ground and sunlight just as soon as you can without severing the runner. If you commence early in the spring, and keep off all fruit-buds, by July or August you will have a pretty fair strawberry-patch. It is quite an exciting little problem to so manage as to give each little plant as much room as you can, and at the same time let dame Nature have full sway by putting out just as many runners as she wants to. The plant will seem to catch the enthusiasm, and strain every nerve in the effort to propagate its own species and build up a thriving little family. Pick out every weed as soon as it gets barely visible to the naked eye. Assign a place to each runner, and cover it with a little dirt, keeping the ground constantly raked fine, and your 20 feet square of strawberry-patch will be a surprise and joy to you. When the plant gets to booming, it wants care almost every morning. What will you do next year if you are ready for fruit? Well, I have not figured out just yet. You can take up the plants with the transplant-

ing-tubes this fall or in the spring; but I don't exactly know how to manage it as it is, without a great amount of hand-weeding. Can anybody help me?

If you are going to see how far you can increase one strawberry, or perhaps half a dozen, it will pay you to commence with some of the high-priced new varieties; and we suggest the Jessie, Bubach, Haverland, or the new Miami. The latter has recently been brought out by one of the bee-friends. See advertisement in this issue.

You can get a large amount of fruit by letting plants stand without any transplanting at all; for this is exactly what they do in the matted-row system. But it is disorderly, and very apt to be weedy. There is not nearly room enough, especially if you want large-sized berries. I will tell you how we manage to get our large berries. In fact, this 28th day of August (although right in the midst of a tremendous *hot dry spell*) we are putting out our plants. The ground is where we grew Ford's Early sweet corn. Just as soon as the last ears were picked, the stalks were cut down and taken off the ground; then we covered it with the best stable manure we could get, until we had on as much as could well be plowed under; in fact, a boy followed the plow with a stick in his hand, to push the manure out of the way whenever it piled up in front of the coulter. After plowing, it was harrowed first with the Acme, then with the disk harrow, and then rolled down level with the roller. Then we spread on another coat of very fine manure with the manure-spreader. This fine manure was "harrowed in" with the *grain-drill*, while we sowed 500 lbs. per acre of Mapes' "Complete" fertilizer. Perhaps you think this is a tremendous manuring; but I tell you, friends, when you are fixing ground for strawberries, there is a chance for getting your money back, even if you do "manure tremendously."

Now, then, we are ready to fix the ground for plants. Our ground is heavy clay; but we get more and larger berries on our heavy clay than we do on the creek-bottom land. The creek bottom is the place for nice plants with great bushy roots; but the clay hills are the place for fruit. Of course, the ground is underdrained. But this is not enough. We have suffered so much from wet that we plow our ground into pretty high furrows, a great deal as people fix it for sweet potatoes, and plant our berry-plants on the top of the furrows. Of course, for strawberries the furrows are flattened on top. With our disk marker we go over the ground and furrow it until it looks exactly like the cut below.



FIXING THE GROUND FOR STRAWBERRIES ON CLAY LAND.

Our disk furrower makes the bottom of the furrow concave or trough-shaped, as we see at A. Now, while we mark it for strawberries we fasten a piece of board between the disks so as to make a small furrow at the top of the ridge, just as you see it at B. This morning, we, by means of hose and several lengths of iron pipe, carried water

from the hydrant right over to the strawberry ground. As the ground was baked hard, and dry, the water was first turned on the plants that were to be taken up. When it was wet enough, our transferring-tubes were pushed down over every good strong plant. They were then placed on a wheelbarrow and carried to the new ground.

Now they are set just about a foot apart in this shallow trench B. While they stand here, before the tins are taken off, run a Planet wheel-hoe so as to throw the sharp ridges of dirt each side of B, up against the transplanting-tubes. Now a boy comes along with a watering-pot and fills the tubes with water, as I have explained. When the contents of the tubes become soft, like mud, they are shaken a little, and the tins are withdrawn; then we go after another load of plants. The fine earth thrown up by the wheel-hoe settles around the plants so as to protect the wet ground from baking under the influence of the hot August sun. With three or four hands that are used to it, the work goes on so rapidly that we do not find it expensive; and in several thousand plants, scarcely one dies. In our plot, set a year ago in just this way, the losses were so few that we never went over it again to replace them; and the crop of Jessies in June abundantly paid all expenses. But a better crop is to come next spring. The cultivation is very simple. Whenever they get just a little weedy, this same disk marker is again drawn through the field, the horses walking in the paths A, and the disk scraping the ground perfectly clean and smooth, at the same time throwing a little fine earth around the plants. All the rest of the work is a little hand-weeding along the narrow ridge where the plants stand, and cutting off the runners as fast as they appear. Now, I think that this matter of watching for runners, and pinching them off, is just the nicest work in the world; but I can not find a man or boy that seems to like it; in fact, the greater part of them will say it is all done, when I can see runners starting out here and there all over the patch. It is because they do not *love* the work as I do. The sight of a runner indicates that the plant is getting hold of the manure and "feeling its oats," as we used to say of a spirited horse. At this stage, pinching off the runner is laying the foundation for those great berries that look like peaches in size, and are away ahead of them in flavor. Why, I just wonder that the whole world does not grow happy and healthy in raising berries. Some of you have thought friend Terry a little extravagant in recommending strawberries instead of patent medicines. Now, look here, friends: I have been in very poor health; in fact, they had to turn me out—not to "grass," but to gardening and berry-raising, to save my life. I am now exceedingly strong and well, and can work out in the hot sun from daylight till dark, and just laugh. Several have criticised friend Terry because he spoke about eating a *quart* of strawberries at a meal. Why, you are beside yourselves. I not only eat a *quart* of strawberries at a meal, but ever so many more, between meals. When I get tired and

thirsty, between ten and eleven I take a pint basketful and eat them just as you would an apple. Strawberries are gone now, so I have to take blackberries.

Well, a great many say we must not eat things before going to bed. Now, I have repeatedly taken a pint of blackberries, just at dusk, to see what the result would be. There was not any bad result at all; but I felt just as fresh, happy, and strong in the morning as one might who has never known any thing of sickness. In fact, I have tried repeatedly so see what harm it would do to eat berries in excess at almost any time of day. While I am engaged in my outdoor work it does not do a bit of harm. I notice this, however, that I am getting a real dislike for meat victuals during hot weather. Give me berries and milk and good bread and butter, and you may have the rest. Plenty of berries is a great saving of the meat-bill; and where you raise the berries yourself they are *certainly* the cheapest. Why, my good friend, have you not felt repeatedly, especially as you get up in the morning, during hot weather, that you do not want any *cooked* breakfast at all? A bowl of good milk from the cellar or refrigerator, some nice ripe berries, and a little good bread and butter to go with it, seems to be a relief. Possibly your good wife may find it a relief also. Of course, there are things raised in the garden that seem to take the place of berries; but although I have been, at different times in my life, a great advocate of meat, and I am yet in cold weather, I do believe that health and happiness come with fresh *fruits and berries*, instead of animal food, in *hot weather*.

THE PEACH TOMATO, ETC.

After my remarks in the last issue, we received the following from W. J. Green, of the Ohio Experiment Station:

A VEGETABLE-WAGON BELONGING TO OUR OHIO EXPERIMENT STATION.

Friend Root:—You speak favorably of the Peach tomato, but say nothing concerning its quality. In my opinion it is unexcelled for slicing. We send out a wagon, after your plan, to dispose of our garden products, as so many people came here to buy vegetables and fruits, and annoyed us not a little. To get rid of this annoyance we commenced delivering our products at the houses of our customers. We find this part of our work to be much more useful than we supposed it would be. We simply thought to turn our products into cash, and then put the money into improvements in other experimental work; but we have found that we can now carry our work a step further than we had thought of doing. We now not only learn the comparative value of the varieties in the field tested, but, what is often quite as useful, we learn what sells the best in the market. By retailing we learn this much better than by wholesaling. The Peach tomato would hardly sell at the groceries; but some of our customers got a taste of them, also to using them, partly for table decoration, as they would peaches or any showy fruit. That is, they set the tomatoes in dishes on the table, whole, and slice and eat as wanted. The result is, several different ladies want all we have, and our salesman (Mr.

Turner, a Medina Co. boy) says that he could sell Peach tomatoes the season through at five cents per quart.

I can not say where or when the peach tomato originated; but it is not new. It seems to have dropped out of cultivation, nearly, for years. Landreth catalogued it a year or two ago. Livingston brought it before the public more prominently last year, and now I hope it will not be allowed to drop again. Careful selection ought to increase its size.

W. J. GREEN.

Ohio Experiment Station, Columbus.

Many thanks, friend G. But I am a little surprised, even now, that you lay no stress on the fact that the Peach tomato *never* rots. As you suggest, it can not well take the place of our large tomatoes, on account of its inferior size; but its other qualities, especially its unexcelled flavor, are, I think, going to give it a prominent place in our gardens. I am rejoiced to know that you are sending out a wagon. Why, it can not help but be a splendid thing in connection with your work of testing fruits and vegetables. I had not thought of it before, but there is no better way to test things in the world than to take them fresh from the garden and present them to the attention of people around at their homes. And I think it will demonstrate that many a man—yes, and woman too—who is out of employment may earn a good livelihood by raising and disposing of things in this way. There is another thing that I much enjoy in connection with our vegetable-wagon: It comes around about nine o'clock for fresh berries and vegetables. Well, in front of our store we have a long stand for the display of fruit and garden-stuff. As the boys bring the things in from the field, it is my *privilege*, when not too busy, to arrange them on this stand. We have apples, pears, peaches, berries, grapes, etc.; cabbages, squashes, tomatoes, little yellow pumpkins (the early ones I have told you about), summer squashes, beets, turnips, and every thing that grows. Well, I have learned that, by making a pretty show of these things, people will stop as they go by, and I have often made quite a few sales in this way. A great deal depends on having things look well. For instance, Livingston's Beauty tomatoes are put in clean new baskets holding half a peck, each tomato being wiped with a damp cloth until its glossy surface shows to advantage. By the way, I am inclined to think that there is not a prettier tomato grown than Livingston's Beauty. When people ask what kind they are, I reply, "Livingston's Beauty." They often exclaim, "Well, they are beauties, sure enough." The larger Ignotums and some other varieties are mostly round and smooth; but the Beauties are *all* handsome, every one of them. This year we have not an ungainly tomato on these vines. Brother Livingston, we thank you for having given us the Beauty tomato, and we feel a little bit proud of the fact that you are an Ohio man, and right near our Experiment Station at Columbus. Now, Bro. L., can't you take hold of this *Peach* tomato and make it just a little bit "bigger"? May be Bro. Green can help a little.

GLEANINGS IN BEE CULTURE.

HEADQUARTERS IN THE WEST

FOR THE MANUFACTURE AND SALE OF

Bee-Keepers' Supplies.

CHAFF AND SIMPLICITY HIVES FURNISHED AT A GREAT REDUCTION IN PRICE.

A full line of supplies always on hand. Also Italian queens and bees at a very low price. Send for large illustrated price list. 1-23d

A. F. Stauffer, Sterling, Ill.

In responding to this advertisement mention GLEANINGS.

No. 1, \$2.00; No. 2, \$1.75; No. 3, \$1.50 | Knife
No. 4, 1.25; No. 5, 1.00; No. 6, 65 | \$1.15

On receipt of the above price

SMOKERS and KNIVES

will be sent postpaid. Descriptive circulars will be sent on receipt of request card.

Bingham & Hetherington Smokers and Knives are staple tools, and have been used ten years without complaint, and are the only stovewood burning clear smoke bee-smokers; no going out, no vexation. Address

BINGHAM & HETHERINGTON, Abionia, Mich.

In responding to this advertisement mention GLEANINGS.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, O.

THE ABC OF CARP CULTURE

A COMPLETE TREATISE

Upon the Food Carp and its Culture.

INCLUDING PLANS AND SPECIFICATIONS, AND FULLEST INSTRUCTIONS FOR THE CONSTRUCTION OF PONDS, AND EVERY THING PERTAINING TO THE BUSINESS OF RAISING CARP FOR FOOD.

Illustrated by Many Fine Engravings.

By A. I. Root and George Finley.

PRICE: 35 Cts.; by Mail, 40 Cts.

A. I. ROOT, Medina, O.

Cash for Beeswax!

Will pay 23c per lb. cash, or 26c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 30c per lb., or 33c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

IF YOU ARE IN WANT OF
BEES or BEE-KEEPERS' SUPPLIES,
Send for our New Catalogue.

OLIVER HOOVER & CO.,
Snydertown, Pa.

I AM AWAITING YOUR ORDER FOR 3-FRAME NUCLEI.

Price, with untested queen, \$3.00. Best tested queen, \$4.00; 2-frame nuclei, 50 cts. less. Combs straight and true; all worker comb, and bees finest of Italians. One untested queen, \$1.00; 6 for \$5.00. Best tested, \$2.50 each.

JNO. A. THORNTON,

Exp. office, Ursa, Ill. Lima, Ill.
Mention GLEANINGS. 12-17db

PASTEBOARD BOXES,

Or Cartons, for One-Pound Sections.



Bee-keepers are realizing more and more the value of these cartons for putting their comb honey in marketable shape. Other articles of home consumption are put up in a neat attractive way, and in shape to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

TABLE OF PRICES OF 1-LB. SECTION CARTONS.

Name or designation.	Price of 1	25	100	500	1000
1-lb. carton, plain.....	2	.20	.60	2.75	5.00
1-lb. carton, printed one side, name and address.....			.90	3.50	6.00
1-lb. carton, printed on both sides, name and address.....			1.00	3.75	6.50
1-lb. carton, with lithograph label, one side.....	3	.30	1.00	4.50	8.50
1-lb. carton, with lithograph label on both sides.....	3	.40	1.30	6.25	12.00
1-lb. carton, with lithograph label one side, name printed.....			1.30	5.25	9.50
1-lb. carton, with lithograph label, printed with name on both sides.....			1.70	7.25	13.50
Lithograph labels, 2 designs, for 1-lb. cartons.....			.35	1.60	3.00

If sent by mail, postage will be 2 cts. each; or in lots of 25 or more, 1 cent each. All the above have tape handles. Price, without tape handles, 5c per 100, or 50c per 1000 less. The quality of the boxes is fair, being made of strawboard, plated outside. If more than 1000 are wanted, write for prices.

A. I. ROOT, MEDINA, O.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says — "We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 noney-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will."

Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. **A. I. ROOT.**
23tf

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
1tf **JNO. VANDERVORT, Laceyville, Pa.**

GLEANINGS IN BEE CULTURE.

❧ BEE-KEEPERS' * SUPPLIES. ❧

QUALITY AND WORKMANSHIP UNSURPASSED.

We are prepared to furnish **Bee-Keepers** with **Supplies Promptly**, and with goods of uniform excellence, as heretofore. Our Hives all take the **Simplicity Frame**. The "**Falcon**" **Chaff Hive** and the "**Chautauqua**," with **Dead-Air Spaces**, are both giving universal satisfaction.

We manufacture a **Full Line** of **Bee-Keepers' Supplies**, including "**Falcon**" **Brand Foundation**, and gladly

FURNISH ESTIMATES, AND SOLICIT CORRESPONDENCE.

SEND * FOR * LARGE * ILLUSTRATED * PRICE * LIST * FOR * 1889 * FREE.

THE W. T. FALCONER MANUFACTURING CO.,
Jamestown, N. Y.

1 24db

Successors to W. T. FALCONER.

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NEW YORK.

FOREIGN ORDERS SOLICITED.

NEW JERSEY.

EASTERN * DEPOT

(Bees.) —FOR— (Queens.)

EVERYTHING USED BY BEE-KEEPERS.

EXCLUSIVE MANUFACTURER OF THE

STANLEY AUTOMATIC HONEY-EXTRACTOR.

Dadant's Foundation, Wholesale and Retail.

WHITE POPLAR OR BASSWOOD SECTIONS.

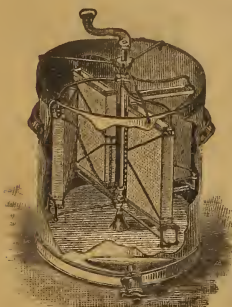
One-Piece, Dovetail, or to nail. Any Quantity, any Size.

COMPLETE MACHINERY—FINEST WORK.

Send for Handsome Illustrated Catalogue, Free.

E. R. NEWCOMB, Pleasant Valley, Dutchess Co., N. Y.

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MASS.

3ftdb



CONN.

BEE SUPPLIES.

Wholesale and Retail.

Illustrated catalogue FREE to all.

We have the largest steam-power shops in the West, exclusively used to make **EVERYTHING** needed in the Apiary, of practical construction and at the **LOWEST PRICES**. Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee-Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand.

Address 3-11td **E. EETCHEMER, COBURG, MONTGOMERY CO., IOWA.**

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BEE-HIVES, SECTIONS, ETC.

We are now selling our No. 1 V-groove sections, in lots of 500, at \$3.00 per 1000; No. 2 sections at \$2.00 per 1000. For price of Italian queens, foundation, smokers, etc., send for price list.

J. STAUFFER & SONS,

Successors to B. J. Miller & Co.,

Nappanee, Ind.

16tdfb

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AN OLD BEE-BOOK REVISED, and DADANT'S FOUNDATION.
See advertisement in another column.

J. C. SAYLES,
HARTFORD, WIS.,

Manufactures Apiarian Supplies of Every Description. Catalogue Free to All.

3tdf

Send Your Address.

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HEADQUARTERS IN THE SOUTH.

FACTORY OF BEE-HIVES, ETC.

From now on I will sell my 4-frame nuclei, with Italian queen, at \$3.75. In lots of 5, at \$3.50 each. Untested queens at \$9.00 per dozen in June, \$8.00 per dozen in July. Satisfaction and safe arrival guaranteed. Eleventh annual catalogue.

11tdf

P. L. VIALLO, Bayou Goula, La.

PURE ITALIAN QUEENS.

50 tested queens now ready at \$1.00 each; 100 untested queens, every 3 days, at 70c each; 3 for \$2.00. A few selected breeding queens at \$2.00 each. All bred from imported and best selected home-bred queens. Safe arrival by mail guaranteed.

D. G. EDMISTON,

Adrian, Lenawee Co., Mich

15tdfb

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HOME EMPLOYMENT. — AGENTS
wanted everywhere, for the **HOME JOURNAL**—a grand family paper at \$1 a year. *Big cash premiums.* Sample FREE. **THOS. G. NEWMAN & SON,** 923 & 925 West Madison Street, - CHICAGO, ILLS.

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JAS. F. WOOD, NORTH PRESCOTT, MASS.,

Will now ship by return mail, his warranted queens to any address, for 75 cts. each, or \$8.00 per dozen. Single queen to Canada, 85 cts. Being isolated from all black bees I am able to warrant every queen purely mated, and safe arrival guaranteed. Every queen is of good shape, and all have filled several combs with eggs before being shipped. I will replace every queen that hatches a black bee with a select tested queen, worth \$2.00.

If you want the best queens promptly, send me your orders. I am bound to suit you. Address as above.

13tdfb

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